

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, APRIL 18, 1885.

ALUMNI ADDRESS.

OUR PERSONAL EQUATIONS.

An Address delivered before the Alumni Association of Jefferson Medical College, April 1, 1885.

BY J. W. HOLLAND, A.M., M.D.,
(Class of 1868.)

Professor of Practice of Medicine and Clinical Medicine,
University of Louisville, Kentucky.

GENTLEMEN, — In preparing his thoughts for an occasion like this, a speaker who has had many predecessors will be lucky if he finds for his flail some straw left unbeaten by former threshers.

That repetition which in the class-room deserves the appellation "mother of learning," on the rostrum might be condemned with the forcible adjective applied by Othello to the iterations of Iago. The customary themes of medical orators,—medical education, expert testimony, sanitary science, and professional ethics,—with the phrases staple in such discourses, have been worn quite threadbare. The most fit for these halls, *The Ideal Medical College*, is one which were better left to some successor more sure of his own opinions and more desirous of bringing the world into conformity with them. The old alumnus who has taken a turn through the hospital and the laboratories is no longer free to doubt that the process of evolution is carrying medical teaching through ascending phases. Perhaps, with a conviction in favor of a graded curriculum, he is disposed to find fault with the annual repetition which, like a circle, makes no progress. If so, then his own experience as a student may be appealed to in proof that there was a decided advance where it was needed, namely, in his own medical knowledge. His second course of lectures was to him not the same as the first: it presented to his larger intelligence wider reaches than he could at first take in. The circle repeating itself, and, so far as the student is concerned, widening in each cycle by his mental growth, makes the spiral, the ideal course of philosophic teachers. As he looks about him, he can see that the nursing mother moves with her Juno stride by sure paths revealed to eyes that range under level brows. Step by step she has walked ahead of us, mending her pace as

we quickened ours, never out of the reach of good movers, yet always leading them.

Shall we inveigh against the imperfections of our nurture, who failed so often to hearken to the maternal voice? The faults to be deplored were those in ourselves, that we did not use our opportunities better.

Then we daily sat down to a board of seven courses, and nibbled, like dyspeptics, at the generous fare for which we have since hungered. Remembering the uniform perversity of mankind, it may fairly be questioned if the newly-adopted foster-brothers have done much better than we, notwithstanding the epicurean cooks who lately sharpened their dull appetites with savory sauces.

There were great cooks in our day, too, who could serve a lecture in a way to tempt an angel to learn medicine, however useless the art might be in the land without sickness.

Sitting under a broad porch which gave upon a lawn of that blue grass which makes fat cattle and glad harvests, I heard an old alumnus discourse of our Alma Mater. Said he, "They say that a man is thoroughly renewed every seven years. I want to go back to 'Old Jeff.' once for each renewal, in the hope that the new man will learn better, things old and new, than did the former man what was taught in his time." He had been back once to take draughts from the maternal font, but his business and his babies have since anchored him fast in Kentucky, and he consoles himself with the dream that with other Jeffersonian angels in Paradise he may again hear Duglison tell about his experiments on Alexis St.-Martin, Meigs dilate upon woman and her glorious mission of motherhood, Gross lament in moving accents the lost art of phlebotomy, see Biddle wave a graceful salute before relating in rhythmic speech the opinions held by Dioscorides concerning the concrete juice of the unripe capsule of the papaver somniferum, and Pancoast go through the dextrous motions of operations for which that happy land will furnish no clinical material. It was a glad reunion as I sat with this foster-brother, that June day fifteen years ago, and looked out on his waving corn and the gold-spotted meadow. I brought him news of the Alma Mater,

and set him raking together the embers of old fires and helped him blow them into something of their ancient warmth. Would that this occasion were less formal, that all of us might sit as by a family hearth and each recount in turn the familiar things that lose none of their charms by age! We might hear some new-born brother tell of things the gray-beard thought his own peculiar experience. I am sure that my counterpart has sat on these benches since I left them. More than one callow youth has come out of the New West to this city of traditions, ready to wonder at Independence Hall, and at the Franklin Library founded by the "Junto" of immortal memory. More than one, as he took an early pilgrimage to the grave at Fifth and Arch Streets, has felt that Benjamin Franklin, like St. Paul, had been "a citizen of no mean city." More than one has felt a fresh sense of his own importance as the elder Gross indorsed his letter of introduction and consigned it to a pigeon-hole with other papers of weighty consideration. More than one, ay, thousands, with hearts touched by these small amenities from a great man to his insignificant students, have felt and proved themselves bound to him by hooks of steel.

But, if I hold to my purpose, it is time to stop the flood of reminiscences that stream in. It were grateful to all of us to celebrate the worthies of our college days and beguile the hour in retrospective ramblings. But such an eloquent tribute to their memory has been given in this place, by one who preceded me seven years ago, that the thought of rivalry in this field oppresses me, and I turn to another theme for my word-spinning. In the half-hour for which I feel privileged to hold you by the button there is opportunity to air some reflections about *The Personal Equations* of medical inquirers. If I succeed in presenting familiar facts in a new grouping, and in such a way as not to be disagreeable, then I shall be satisfied. The importance of these considerations may not strike every one. For scientific inquiry often meets with the reception accorded by Confucius to the inquisitive boy. As Carlyle relates it, the boy asked Confucius, "How many stars are in the sky?" Confucius replied, "he minded the things near him." "Then," said the boy, "how many hairs are there

in your eyebrows?" The sage replied, "he didn't know and didn't care."

About ninety years ago the astronomer royal of England regretfully announced that he had to part with his diligent and useful assistant, as he had lately acquired an inveterate habit of recording his observations half a second too late. The whirligig of time brought the assistant his revenge, as later astronomers put just as much reliance on his observations as on those of his principal. It was found that both were slightly wrong; both were liable to err, as are the most skilful observers. Indeed, it is only when that various creature, man, is not a part of the machinery that we can put entire trust in the register. These variations from the absolute truth in measuring minute divisions of time and space can be estimated by comparison with instruments of precision, and are usually found to be constant for the same person in the same class of observations. The habitual error characteristic of a person is called his personal equation, and is a correction to be applied to his record of all events of like nature. Time is an element first in perceiving, next in willing, last in recording. These processes in different men go on with varying degrees of rapidity. As quick as thought is, there is time in it for some to fall behind others. Astronomers tell us that there are variations in researches that do not rank as precise, which are much more marked than those just referred to. It is probable that examples of *personal equation*, using the term in its widest sense, are to be found in every form of inquiry. As instances of it in observations that do not admit of mathematical measurement, we are told of the different pictures drawn by different observers of nebulae and the corona of solar eclipse. It would be an easy problem for some ophthalmologist to determine if unsuspected and uncorrected astigmatism may not account for some of these variations, as Liebreich showed its effects in certain peculiarities of Turner's landscapes. While we may not hope to secure an exact valuation of the personal equation in such subtle forms as these, it is of importance to know when allowance should be made, and in what direction to apply efforts for amelioration of the defect.

Turning from the distant objects of study, let us follow the example of the

wise Confucius, and "mind the things that are near us." In the science we cultivate there are some occasions for micro-metric data in physiological research. In every department of medicine it is highly important that observers should see, hear, understand, and report accurately, so that others may apprehend rightly the appearances of disease and the effect of remedies. If it were not for the frequent gleams reflected on every hand from the spectacles of the young, showing that the enterprising oculist with his trial glasses has been abroad in the land, one might fear that uncorrected myopia was responsible for some errors. Prof. Hermann Cohn states that about sixty per cent. of the medical graduates of Breslau were short-sighted. It is not likely that medical science runs any risk from this quarter. Ordinary short-sightedness does not materially affect observations made at the bedside, even if the observer should be so exceptionally stupid as not to find out his defect during his medical studies, or so remiss as not to avail himself of the correction afforded by glasses.

Besides the sense of form, there is the wholly distinct sense of color, in which a considerable number are unconsciously lacking. For a hundred years *Daltonism* has been recognized as a physiological curiosity, but it is only a few years since its practical bearings have attracted the attention of persons long familiar with the errors of vision for form. Examination of something like a quarter of a million persons in different parts of the world shows that about four per cent. of the males in any community may be counted on as radically color-blind, and relatively unfit for occupations requiring the use of the color sense. Dr. Jeffries relates an instance of a color-blind boy at the Boston Institute of Technology who failed in Chemistry, which he had chosen as a profession, because without some normal-eyed person by his side he could not determine the color of precipitates. Apart from this congenital and incurable defect, experts have detected a hitherto unsuspected amount of ignorance of colors and color names among males of all ages and all degrees of ordinary education. It shows itself among teachers of physics, and even those who have technical uses for the nicest color sense. Virchow, at the meeting of the Anthropological Society of July, 1878,

urged the practical teaching of colors, as he had found that the majority of young men were incapable of selecting with certainty the finer shades of the most common colors. In his experience "It was exceptional that a medical student could tell whether a red shaded into a black, blue, or brown, or whether a yellow shaded into gray, white, or green." "This was a lamentable defect of the eye very seldom dependent on color-blindness, but on ignorance of colors and lack of practice." Working in the mechanic arts that employ colors, artisans soon acquire a very unusual refinement of the color sense, as is shown by the accuracy with which they differentiate chromatic gradations and combine colors to produce a desired tint.

It would not be a wholly fruitless search if some one with a trained and sensitive ear were to take the pitch of certain sounds heard in thoracic auscultation, and then test a medical class by means of organ-pipes, to ascertain if these sounds do not sometimes pass the limits of hearing in those whose range is not of the highest. Dr. Wollaston remarked total insensibility in some persons to the sound of a small organ-pipe which in respect to loudness was far within the ordinary limits of hearing. There are individuals who have keen ears for the lower sounds who never hear the squeak of a bat, the cricket's note, or even the chirrup of a sparrow. Sir John Herschel notes that while some persons not at all deaf can just hear a note four octaves above the middle E of the piano, which is below the chirrup of a sparrow, others have a distinct perception of sounds two octaves higher.

It is a reasonable conjecture that some of us present who have normal hearing as respects the middle and lower octaves, are defective in the highest without knowing it, and thus fail to hear chinking or hissing sounds, like the percussion-note known as the cracked-pot sound, and some sibilant râles, fine crepitations and creaking, friction-sounds, to which others are acutely sensitive. It will be understood that this personal equation bears no relation to what is called "a musical ear," which is properly defined as a faculty of distinguishing discords. Like color-blindness, it has probably an anatomical basis, is congenital, and not susceptible of improvement.

There is, however, in those untrained in music a relative inability to discrimi-

nate in the pitch of sounds of percussion and auscultation, like the before-mentioned ignorance of color-shading. In his essay on variations in pitch of percussion and auscultatory sounds, Prof. Flint observes that to the musical ear, more especially if skilled in discriminating musical tones, a disparity in pitch is more quickly as well as more clearly distinguished. When the beginner finds a difficulty in perceiving a difference in sounds apparent to the practised diagnostician, Prof. Flint has made it manifest by requesting him to compare the two sounds as if they were musical notes, with reference to pitch. If he has had musical cultivation, the disparity is quickly perceived. Such a preliminary training has been found of material service in acquiring expertness in auscultation and percussion.

In an article in the *Fortnightly Review*, based upon a large amount of testimony and controlled by the methods in use by statisticians, Mr. Francis Galton states that he finds great differences in the power of forming pictures of objects in the mind's eye. This power of sight-memory is a reversal of the order of events in the original perception. An excitement of the brain propagates itself outwards to the visual centre back of the retina, producing pictorial imitations more or less true or vivid, according to the vigor of the outward impulse. In some this faculty is habitually weak, and the propagation will take place only under such peculiar states as dreams, delirium, great excitement, or stimulation by drugs. Others reproduce past scenes with a distinctness little short of actual sight. It was found that the medium quality of mental imagery, though fairly vivid, was incomplete. Only one in sixteen had it in the degree to be desired. I venture the opinion that this faculty of mental imagery is the basis of that knowledge of topographic anatomy of so great importance to the operator especially, but valuable to the doctor at every turn. Upon it, to a great extent, depends the student's ability to state the relations of nerve, artery, and vein, without resorting to the mnemonic arrangements of A., V., and N. that quiz-masters cram them with. This natural gift, when joined to certain other qualities,—self-reliance and mechanical tact,—is the making of a surgeon. I have known a man of fine mind, well equipped in these last-named respects, and

who had good opportunities for advancement, fail as an operator of the first rank because he lacked this power of visual memory. It is not rare, on the eve of an operation, for a surgeon to refresh the pictures memory drew in fading colors, by resort over-night to the anatomical atlas. This serves the purpose in many cases, but it is not the best way of knowing the anatomy of a surgical region. According to Napoleon, the rarest and most valuable trait in a soldier is "two-o'clock-in-the-morning courage." So I would say, the ideal anatomist is one who, awakened at midnight for an emergency, has his knowledge at his fingers' ends.

It is the opinion of Galton that in twelve out of sixteen this topographic memory may be developed to a useful degree by education. He lays especial stress upon the testimony of the Director of the National School of Design, in Paris, who, beginning with the simplest figures, trained his pupils to study models with the view of drawing from memory. After four months' practice they had no difficulty in summoning images at will, holding them steadily in the mind, and drawing them with accuracy. He relates the experience of an engineer, who, after a few weeks of systematic practice, found to his delight that he had become an adept in color-memory, which up to that time had been an undeveloped faculty. Mechanicians, engineers, and architects, who practise the drawing of an intended structure in all its dimensions, usually have mental vision of remarkable clearness and precision. This faculty must have been possessed by the late Prof. Wallace to an unusual degree. Many here present will remember how, by off-hand modelling with colored clays, he would give plastic expression to his picture-memory of anatomical details. With a few deft touches he would make tumors rise before the class, or would inflict on counterfeit wombs all sorts of pathological changes.

In the presence of older and better teachers than myself I hazard the suggestion that a course of practical anatomy in which the student would be required to draw, in outline, from memory, or roughly work up in clay, the forms and relations of parts laid bare in his dissections the day before, would be a valuable addition to the present means of instruction. Conning of text-books on anatomy gives verbal

memory, but, according to Galton, bookish methods tend to repress this gift of nature. It is possible to starve it by disuse, and again to feed it by judicious methods of education. There are many present, fresh from the quiz-room, who can give, by an effort of verbal memory, the layers of structure encountered in making the dissection for inguinal hernia, who cannot make a sharp picture of them in their minds, much less an outline-drawing of the relations of the inguinal rings and other parts concerned. If each of ten doctors taken at random were to describe faithfully the mental vision he would have of the path of a bullet shot through a given spot in the trunk of a subject, I warrant there would be evidence of personal equation as well as of imperfect models of instruction. It may be objected that the proposed improvement on the conventional method requires that the student should have an unusual talent for drawing. To make an outline indicating the form and relative position of parts does not call for any artistic power worth the name. Experienced teachers assert that any one not blind, lame in the hand, or imbecile, can acquire at least this degree of proficiency. It is within the reach of any one who can learn the art of penmanship.

In educational conventions one hears a good deal said about the *New Education*. Its advocates claim for it that it is the cream of traditional methods worked into a system. It is wholly different from the Chinese plan of committing to memory endless pages from Confucius, and thus loading the mind with good-for-nothing lore. Its primary aim is avowed to be to teach the pupil to see, hear, and understand correctly, in order that he may take up the study and work of after-life as free from defects of his five senses as culture can make him.

Practice in drawing is a salient feature. It has been found that along with the training of the hand, this tends to develop quickness and accuracy of perception, and a fidelity in objective memory that is surprising to those educated under the old routine. Courses in music have been for years an element in the public school curriculum in many parts of our country, with results equally gratifying.

While it has not been expected that any one can be made to hear notes beyond his

normal scale, improvement in the power to discriminate the pitch of sounds has been unequivocal. You and I may consider ourselves too old to go into training of this sort; but in this we differ from a busy practitioner, over sixty years of age, a neighbor of mine, who, in a recent affliction, found solace and substantial self-culture in taking a course of drawing. We can at least see to it that our own children, and the students we send up to Alma Mater in the twentieth century, have not only a good academic education, but, better than that, have been taught with especial reference to seeing, hearing, and understanding correctly whatsoever things come up in the life-work before them.

It is a popular impression that when one brings to the aid of the lens in his eye other lenses outside, the chances of fallacy are thereby removed. That this is erroneous, working microscopists are well aware. There is a distinguished histologist in New York who teaches, and demonstrates to the apparent satisfaction of his pupils, that there is a reticulum in the blood-corpuscle which is an exhibition of the net-work present generally in protoplasmic structures. On the other hand, the great majority of our histologists and the most skilled manipulators of high-power objectives assert their inability to see the net-work spoken of. What they see in his demonstration is, according to them, the usual appearance presented by granular bodies when viewed slightly out of focus. If the drawings made by him represent the cell as he sees it, there is decided difference between his microscopic vision and that of most experienced observers. This would be an instance of personal equation on the part of some one. As to the party to whose observations a factor of error must be applied, photography alone offers a final judgment. By this means the late Dr. Woodward succeeded in convincing foreign microscopists that the resolution of Nobert's nineteenth band was not simply a matter of faith, but one of sight.

It may turn out that the difference is not one of sight, but of interpretation. The liability to misinterpret besets the path of the scientific observer in every field. When Carlyle said that "a man sees what he brings with him the power to see," he meant that through the optical apparatus of vision there was an eye of the

intellect looking, perceiving, and interpreting. This recipient eye back in the optic lobes, or perhaps in the visual centre of the cortex, colors every object of sensation whose image passes into it. The mind is conscious of that object, not as it entered but as it has been refracted by the prismatic medium of personality through which it was transmitted. A great obstacle in the way of seeing things plainly as they are, is a prepossession in favor of a certain view of them. Pride of opinion may thus create a personal equation; so may a love of sensation or a rage for novelty; so may the fanaticism of hypothesis. To a pet hypothesis has been ascribed the quality of assimilating all observations to itself. Standing erect among the facts, it is a convenient stem around which the investigator twines his pliant impressions, stem and vine each helping to hold the other up. It is not my intention to say aught in dispraise of theory, as such. It has been well said that nothing is so helpful to an investigator as a good theory. Like wine, it is a good servant but a bad master. Used rightly, it is a wholesome stimulant, but some thirsty souls are so constituted that they can't take it in moderation. If they once take a sip at a theory they tope with it, and under its influence see things double, and lose their mental equipoise, until time and the jostling of critics sobers them off.

It has been recently announced that the new American Society for Psychical Research disclaims that its object is the study of supernatural phenomena. The ground they propose to tread is tolerably safe so long as they confine their inquiry to those mental states in which certain persons called "thought-readers" seem to have the faculty of knowing some of the ideas of others. If we may judge by the career of the English society of that name, there is a tendency in those who concern themselves about "thought-transference" to step over into the twilight-land of clairvoyance, where marsh-meteors soon lead them into a bog. The large proportion of doctors in the American society is an assurance that it will not be allowed to degenerate, as did the English one, into a medium for giving consequence and permanence to all the ghost-stories treasured in bereaved families as assuring glimpses of the unseen presence of their dead. Doubtless there are more things in heaven

and earth than are dreamt of in our philosophy; but when an observer's feelings are strongly interested, they so influence his judgment as to what he sees of these undreamt-of things as to make him a very unreliable witness.

It would be difficult to exaggerate the tendency to self-deception in examining the phenomena of spiritualism, when the investigator is possessed with a longing for evidence of the spiritual existence of some dead friend or relation. Only those beings who can get outside of themselves, who are able to put aside the craving for communication with the dear travellers in that undiscovered country,—only these are qualified to estimate with judicial fairness the extravagant pretensions of clairvoyance, spiritualism, and mesmerism. These are mentioned together because opinions, like other furniture, "go in sets," and it is in these that the dominant idea referred to becomes a personal equation of notable size. It is a matter for medical men to consider, inasmuch as it is vaunted that those who believe in and resort to these occult powers have great advantages in diagnosing and curing disease. It is alleged that some persons possess an endowment by nature of seeing through opaque objects; they are clairvoyant,—see by transcendent vision things out of the common range. A patient of mine just dropped in with a friend at the office of one of these "psychometric healers," who nearly frightened her out of her wits by gravely telling her that he could see that she suffered from occasional headache and pain in the side, due plainly to the fact that her liver was bound back to her diaphragm. She thought it witchcraft that he should, without examination, divine these things, but was somewhat reassured when told that, as for the headache and sideache, they might be counted on as symptoms in almost every woman that entered a doctor's office, and that she would be in a bad way if her liver was not so anchored: I have never seen, or heard on good authority, of one of these gifted beings that had the powers of diagnosis possessed by a new medical graduate, and yet belief in the verity of their claims has grown, by waves of popular excitement, until it includes people of undoubted intelligence. At times the epidemic has seized men of science, and even educated physicians, though the vast majority of the well-instructed look on clairvoyance as un-

profitable in speculation and quackery in practice.

In the library on Fifth Street, founded by Franklin and his "Junto," is a copy of a report made on Animal Magnetism, by Dr. Franklin and others, to the French Academy just one hundred years ago. Like all documents that Franklin had anything to do with, it is thorough and perspicuous. The experiments by which they were convinced of the baselessness of Mesmer's claims are models of ingenuity. They show the master mind of that wonderful Philadelphian, who had a seeing eye of the highest power.

Did you ever think how much his mental vision resembled the spectacles he invented? Half the glass was for near and half for distant objects. Nothing that interested him, either remote or at hand, was he content to view dimly. Upon them all, smoking chimneys and thunderbolts, he directed his clear and true sight. The pretensions of Mesmer, alike with the pretensions of tyrants, he saw through and exhibited to the gaze of all. At the same time, in his report he concedes a certain value to the phenomena exhibited by those said to be mesmerized: they furnish "important evidence of the power of the imagination."

Again and again did the French Academy respond to the popular clamor for investigation, until it dismissed the subject of clairvoyance, in a report published in 1837, by stating that the facts furnished have nothing in common with either physiology or therapeutics. A standing offer was made by Burdin, and since repeated by others, of large sums of money to any one who should produce a clairvoyant able to read through an opaque medium. Although the experiment has been variously altered at the instance of those making the trial, no one has yet succeeded in winning the prize. The attempts have, however, resulted in the detection of the means by which the credulous have at other times been imposed on. When the neurologists of the Society for Psychical Research shall discover one individual who can satisfy this reasonable demand, it will be conceded that in this direction their labors have not been in vain. Experience forbids us to hope that such a one exists. For fifty years those claiming to see blindfold what is not revealed to the eye have not brought to human knowledge a single new

fact concerning the inner workings of things. What discoveries in physiology and pathology would flow from the use of any instrument that would compensate, even in a small degree, for the limitations of sight and hearing! So often baffled and led astray by the inadequacy of the eye and ear, mankind would then have to make allowance for a personal equation in doctors who attempted to solve medical enigmas without its aid. Alas for the beautiful dream! no clairvoyant has ever penetrated the veil further than common people. Indeed, they have left the glorious privilege of adding to the sum of scientific knowledge entirely to folk of five senses only, while they grope on in a limbo where honest minds seem forever doomed to struggle with fraud, credulity, and superstition.

If the Society for Psychical Research shall make a report differing in important particulars from the settled convictions of most men of science, again, as often before, will be raised the charge of "bias and credulity," and again will be heard the retort of "scientific prejudice and intolerance." Between these two extremes it will be hard to find and hold the diagonal line. In such a controversy, to determine on which side will be the great defect, we shall be much in want of a mental dynamometer which shall give us some approximation to the personal equation of mental strength in the disputants. All the traditional methods of gauging the mind depend too much on tests of memory,—quite a subordinate faculty. It does not seem at all likely that man shall ever invent any adequate plummet to sound these "abysmal depths of personality." Nor can he ever be satisfied to turn away from this question as Confucius did from that concerning the number of hairs in his eyebrow, and say, because he does not know how much allowance to make for personality, therefore he will not care for it as a factor in medical investigation.

Of one thing we may be sure, that in cultivating our five senses much may be done to lower all their personal equations. While thus engaged there can be no doubt that we walk on solid ground and in the middle of the road. Instead of forming magnetic circles in the dark, waiting in a pliant hour for spiritual insight to develop to the point of receiving impressions concerning things which shun the light of

day, the sure way will be by incessant practice to sharpen the natural powers of observation and strengthen the reasoning faculty so as to acquire that professional sagacity which notes myriads of fine differences and resemblances that escape the scrutiny of the untrained intellect. May ours be that clear-sighted skepticism that would discount every personal equation in ourselves or others, that would turn the white light of criticism upon every reputed revelation, lest some fallacy steal in under the garb of truth.

To free itself from bias and achieve perfect uprightness, the scientific mind must be imbued with a religion in which silent adoration shall be offered to those natural laws which have been called the thoughts of God; in which the best faith shall be honest doubt, the worst unbelief shall be to question the permanence and beneficence of truth, and in which a grievous sin shall be imputed to him who is indifferent to its pursuit. Should it ever want a litany, what better invocation than

"Give me no light, great heaven, but such as turns
To energy of human fellowship;
No powers, save the growing heritage
That makes completer manhood."

ORIGINAL COMMUNICATIONS.

THE SPINAL ARTHROPATHIES.— A CLINICAL REPORT OF SIX CASES OF CHARCOT'S JOINTS.*

BY A. SYDNEY ROBERTS, M.D.,

Surgeon to the Philadelphia Hospital, Instructor in Orthopædic Surgery in the Medical Department of the University of Pennsylvania.

CASE I.—M. K., male, æt. 41, referred to the New York Orthopædic Dispensary from St. Luke's Hospital on May 5, 1879. Hereditary history unusually good. He is a moderate drinker. Health excellent until manifestation of present joint-trouble. Married, and the father of five healthy children.

Condition on Date of Entry.—A large nodular tumor was found over the left hip-joint, oval in shape, the long axis of which corresponds with line of Poupert's ligament. Transverse diameter of normal limb over hip-joint, 22 inches; of affected limb at same point, 30½ inches. No muscular atrophy detected by measurements of circumference. Left limb 1½ inches shorter than its fellow; measurements made from the umbilicus. External iliac fossa of left side filled with osteophytes, which add to bulk of tumor. The ligamentous structures about the joint seem entirely

destroyed; motion of limb abnormally free in all directions. Head of femur probably absorbed or greatly atrophied. Limb abducted and rotated outward. What appears as the head of the femur is anterior to its normal position, lying under a "shed" of bone built out from the pelvis, which covers its atrophied extremity like an umbrella. When the patient flexes the limb the upper extremity of the femur glides forward until it catches under this shed of provisional bone, which, acting as a fulcrum, allows the patient to flex and rotate the limb with ease.

A thorough examination of the patient for evidence of a central lesion revealed the absence of numbness of limbs, of pain, or of constricting bands; sensation slightly impaired on left side. On right side reflex action increased on titillation of soles; none on left. No tendon-reflex in either limb. Sways with "closed eyes test."

Condition Eighteen Months Later.—The patient presented all the marked symptoms of locomotor ataxia. Two years from date upon which the above notes were recorded (May 5, 1879) he is confined to bed, with complete loss of muscular co-ordination.

Remarks.—The case exhibits an arthropathy existing four and a half years prior to the development of active tabetic symptoms, and shows a tendency from early stages to the formation of osteophytes about the joint, with early atrophy of the upper epiphysis of the femur.

At no time during the progress of the lesion were there developed reflex neural symptoms that would point to joint-inflammation.

The joint-lesion (swelling and tumefaction) diminished as the active symptoms of ataxia advanced. Provisional callus was thrown out about the atrophied extremity of the femur as a substitute for the destroyed acetabulum.

CASE II.—Male, æt. 44. Registered as an out-patient in the New York Orthopædic Dispensary on January 29, 1879. The following notes were recorded.

Hereditary History.—Parents living and healthy; one brother died of phthisis. Patient is married; has three children, two in excellent health; the third has an intrapelvic abscess (subsequently died of amyloid degeneration of the kidneys). Patient has had to work very hard, with considerable mental anxiety; no other known cause for present disease.

The left knee and ankle are enlarged, the latter more so relatively than the knee. The patient states that seven years ago, while working, a heavy box fell upon him, injuring the ankle. The joint became swollen, and he

* Read, by invitation, at a meeting of the Neurological Society of Philadelphia, December 26, 1884.

was "laid up for two months." He recovered, and suffered no inconvenience for one year; the swelling again returned in the same ankle and involved the entire leg. At this time he was incapacitated from work for three months; he recovered, and has had no active joint-symptoms since. Has never had an abscess about the joint.

The urgent symptoms at present examination are those of locomotor ataxia. He cannot walk without staggering, and when attempting to do so in the dark, or with closed eyes, falls. Suffers from ataxic pains in the right leg and arm. Is uncertain in guiding his finger to the tip of his nose with his eyes closed, or in putting his heel on a designated spot. Sensation impaired in right hand and arm; has difficulty in buttoning his coat with that hand. When standing or walking in his bare feet he feels as though he were on cushions; vision unimpaired (eye-ground not examined).

On February 4, 1879, Dr. Cloves Adams saw the patient in consultation and thought him to be suffering from locomotor ataxia in the third stage, with osseous changes in left ankle and synovitis of both knees.

The patient returned to the Dispensary in September of the same year, with a marked elastic swelling of the right elbow-joint.

A year later (November, 1880) he was referred to the clinic of Dr. E. C. Seguin. He again applied to the Orthopaedic Dispensary on February 14, 1881. The ataxic symptoms had advanced; he walked with extreme difficulty. The condition of the joints remained about the same as when last examined, now four months ago.

During November, 1881, the patient was critically examined by Dr. S. Weir Mitchell and pronounced to be in the third stage of locomotor ataxia, with spinal arthropathies of the right elbow and left ankle-joints. It was noted that the circumference of the elbow-tumor had materially diminished since the last measurements were recorded (decrease of two and a half inches).

Remarks.—The joint-enlargements in this patient presented three characteristic peripheral ataxic conditions:

1st. At the knee-joint synovial irritation, indicated by the physical signs of a chronic synovitis, although at no time during its course was there evidence of inflammation.

2d. A characteristic, doughy, nodular ataxic joint-tumor of the elbow, largely composed of osteophytes and excessive synovial secretion.

3d. Hypertrophy of the lower epiphyses of the tibia and fibula, with but slight synovial irritation.

The peripheral manifestations at the

knee and ankle accompanied the earlier symptoms of ataxia; the elbow-tumor entered abruptly upon the second stage of the sclerosis. I am indebted to my friend, Dr. Newton M. Shaffer, of New York, for the privilege of reporting the above notes.

CASE III.—J. H., male, æt. 45. Was admitted to my wards in the Philadelphia Hospital on April 3, 1883. The following notes were recorded: A vigorous, well-nourished man, with little personal knowledge of his family or their history. Knew his parents lived to an advanced age, but thought both of his brothers had died, and likewise two sisters. Acknowledged to being strongly addicted to the use of alcohol. He thought his present trouble arose from a "dissipated life and constitutional syphilis."

Two years ago, after a debauch, his attention was directed to painful swelling of his right great toe. This lasted a few days, and as the pain and swelling of the toe subsided the right ankle-joint enlarged. This swelling slowly and painlessly increased, and three months from its onset the same condition appeared in the left ankle-joint. Without especial discomfort to the patient, this joint enlarged. He continued drinking to excess, and was admitted to the hospital in a state of chronic alcoholism.

An examination two weeks after admission, when all traces of alcoholism had subsided, gave evidence by the following facts of a central lesion: He had suffered from constricting pains about the abdomen and occasional darting pain in the region of the hips and thighs for the past year. He also experiences considerable difficulty in walking, especially at night. At present he has a staggering gait. Absence of patellar reflex in both limbs; sways and falls with "closed eyes test," and has difficulty in finding tip of nose with forefinger when eyes are closed.

The metatarso-phalangeal articulation of the right great toe is ankylosed. Both ankle-joints are enlarged apparently by a diffuse hypertrophy of the epiphyses of tibia and fibula. This increase has almost doubled their normal circumference. The subcutaneous tissues are slightly oedematous. The capsules of ankle-joints are distended and elastic.

When first admitted, the tissues about the ankles and legs were swollen, presenting the appearance of diffuse cellulitis. This subsided in a few days, from rest and local treatment.

My colleague, Dr. C. K. Mills, saw the patient with me in consultation and confirmed the diagnosis I had made, of posterior spinal sclerosis with accompanying arthropathies at ankle-joints.

Remarks.—The joint-hypertrophy had

preceded any active symptoms of ataxia. The character of the joint-enlargement was that of bony hypertrophy, without a tendency to the formation of osteophytes or to a nodular irregularity of contour. The possibility of rheumatism or malignant disease was considered and dismissed. A thorough physical examination failed to detect any of the characteristic reflex neural symptoms of an epiphyseal osteitis.

The history of the progress and course of the ankle-joint hypertrophy, together with the evidence of a central lesion and the negative physical signs of local joint-inflammation, all confirmed the diagnosis of an arthropathy of spinal origin.

CASE IV.—Dr. A. A. Y., male, æt. 65, resident of Hammonton, New Jersey. Examined the patient with Dr. S. Weir Mitchell on January 16, 1885. For the substance of the following notes I am indebted to Dr. Woodnutt.

History of Patient.—Family history excellent. He had always been strong and healthy during youth and up to 1865, though a hard-working farmer. An army life and three years of extreme exposure prior to the close of the war found him suffering in 1865 from sharp, wandering pains in the upper and lower extremities; never noticed, however, in the articulations. Loss of power followed in the right leg. Three years later suppurative arthritis attacked the metatarsophalangeal articulation of the right great toe and last phalanx of left ring-finger, sequestra coming away in each instance.

During 1870 the patient first noticed an oedematous swelling of the right elbow; following shortly upon this the wrist-joint of the same arm gradually and painlessly enlarged. Then a distention of the capsule of the right knee-joint succeeded. The enlargement of the latter articulation was more rapid than either the wrist or elbow. Rheumatic pains in the joints accompanied the swelling and deformity.

The left limb has been comparatively exempt from pain. Recently, however, the capsule of the knee-joint has become distended and elastic. The elbow-tumor has diminished somewhat in circumference during the past four years.

During the past year the distal phalanx of the right index finger has gradually atrophied, without inflammation, and is entirely wanting. The nail and finger-end are normal, though somewhat shortened. Pain at present is chiefly in both feet, paroxysmal and erratic, often attacking corresponding points on the legs.

The present appearance of the right elbow and left knee-joint enlargements exhibits an

irregular, nodulated hypertrophy bearing no resemblance to normal joint-outline, and consisting chiefly of osteophytes and abnormal increase of synovial fluid. Motion preternaturally free in all directions; structure of joints apparently entirely destroyed.

Remarks.—The joint-lesions first appeared in this patient after ataxia had become established. The appearance of the affected elbow and knee is that of an enormous nodular hypertrophied mass of bone, doubling their normal circumference, associated with synovial distention of the capsule. Osteophytes readily movable within the capsule, and varying in size from a pigeon's egg to that of a turkey.

The atrophy of the distal phalanx of the right index finger is especially to be noted, it being the first instance of complete absorption of the diaphysis of bone that I have had an opportunity of observing.

CASE V.—W. H. McC., male, æt. 38, married. Admitted to the Orthopædic Dispensary of the University Hospital in July, 1883.

Hereditary history excellent; no evidence could be obtained of articular disease, rheumatism, or phthisis in any member of his family. He presented at date of examination the appearance of a healthy, well-nourished man. Has always worked industriously at his trade of plumber. A moderate drinker. He had constitutional evidence of syphilis, following a chancre contracted in 1863.

The patient attributes the present enlargement of the right ankle-joint to an injury received while working in a cramped position. Following this strain the ankle became suddenly discolored and swollen, bursting the buttons from his shoes. He was incapacitated for work during the succeeding four days; at the end of a week the discoloration and swelling had about disappeared. His attention was then first directed to a bony enlargement of the right ankle-joint. This slowly and painlessly increased in size without any appreciable interference in locomotion. At present examination the enlargement resembles a simple hypertrophy of the lower epiphyses of the tibia and fibula. The outline of the joint is globular, with slight elasticity of capsule. No pain or reflex muscular spasm.

Record of Spinal Symptoms.—Complains of darting pains about hips. Has difficulty in walking at night; sways with closed eyes. Complete absence of patellar reflex on both sides. Dr. Horatio C. Wood saw him with me in October of 1883, and pronounced him ataxic.

Remarks.—This case presents an ar-

thoropathy that apparently followed a direct traumatism to the affected limb. From careful interrogation I determined that the acute swelling and ecchymosis resulted from rupture of a varicose vein, inasmuch as these were numerous and greatly engorged about the affected ankle. This first attracted his attention to the ankle, the deeper bony growth being detected when the active symptoms of subcutaneous swelling had subsided.

The hypertrophy of the joint has increased the circumference four and a half inches over its fellow.

CASE VI.—A specimen of shoulder-joint arthropathy, lately removed at an autopsy held upon the body of a well-marked ataxic, has been referred to me by Dr. S. Weir Mitchell to embody in this report. The joint had become suddenly and painlessly enlarged in the later stages of the central lesion. It presented ante-mortem all the characteristic symptoms of a tabetic arthropathy: distention of the capsule, abnormal mobility, and the presence of osteophytes. The joint, upon examination, presented the following:

1st. Cartilage covering head of humerus eroded; that upon glenoid cavity irregularly thickened.

2d. Anterior margin of glenoid cavity worn away, allowing the head of bone to rest in position of forward dislocation.

3d. Osteophytes abundant about junction of capsule with anatomical neck. Marked relaxation of ligamentous structures and distention of capsule.

4th. General hypertrophy of epiphysis, somewhat nodular at margins. Evidences of hydrarthrosis.

The practical deductions to be drawn from a clinical study of the above somewhat anomalous cases may be briefly summarized as follows:

Period of Development.—1st. The tabetic arthropathies may occur independently, or precede the active symptoms of locomotor ataxia.

2d. They occasionally develop suddenly, late in the course of a posterior spinal sclerosis.

Nature of Lesions.—The peripheral expression of central nerve-irritation is characterized by the following changes found in the structure of the various articulations.

1st. A chronic asthenic hyperæmia of the synovial membranes; a hydrarthrosis.

2d. An interstitial atrophy of the epiphyses.

3d. A fungous or rarefying epiphyseal hypertrophy.

4th. The formation of osteophytes and bony stalactites.

These various joint-expressions characteristic of the spinal arthropathies may exist separately, but are usually combined in the same subject.

Differential Diagnosis.—They may be readily distinguished from the common inflammatory lesions of the epiphyses by the total absence of the reflex neural phenomena,—i.e., of pain, both reflex and local, the apprehensive state regarding joint-movements, and the reflex or tetanic spasm of the muscles always associated with joint-arthritis. Abscess is never directly associated with the arthropathies, unless incident upon direct traumatism.

They are more difficult to differentiate from malignant disease of the articulations, but a careful inquiry into the history and course of the lesion, and the presence or absence of central disturbance, are our most reliable guides.

Course.—The progress of the arthropathies is essentially chronic. Occurring early, not infrequently in the history of the tabetic lesion they slowly increase, with occasional exacerbations, and years elapse before fully matured. A rapidly developing arthropathy may be associated with the later stages of an ataxia. Their course is self-limiting, though never reparative.

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM H. GREENE, M.D.

AN IMPROVED METHOD FOR THE ESTIMATION OF THE ALKALINE METALS IN URINE is proposed by Th. Lehmann. Neubauer's method of precipitating the urine by baryta solution before evaporation allows the possibility of loss both in the precipitation and the burning. Lehmann takes a quantity of urine depending on its specific gravity; one hundred cubic centimetres if the specific gravity be lower than 1020, or fifty cubic centimetres if it be above this, are introduced into a platinum capsule and treated with three or four grammes of ammonium sulphate. The mixture is evaporated to dryness on a water-bath, and then heated to complete ignition. The operation is not as delicate

as that with the urine alone, and there is no danger that any of the alkaline sulphate may be volatilized by the high temperature. If the ash is not perfectly white, a few drops of sulphuric acid are added, and the mass is again heated to expel the excess of acid. The ash is then dissolved in hot dilute hydrochloric acid, and the solution is filtered, the filtrate and washings being treated with baryta-water until the reaction is alkaline, and the analysis is finished in the usual manner.

To avoid loss of potassio-platinic chloride by the dissolving action of the slight excess of hydrochloric acid always present in platinum chloride, Lehmann recommends that the mixture of potassium and sodium chlorides shall be evaporated to dryness on a water-bath after the addition of the platinum chloride. The residue is then treated with a little water, and the mixture is evaporated to a syrup; ninety-five-per-cent. alcohol is then added, and the crystalline precipitate is washed in the capsule until the alcoholic washings become colorless. All of the washings are poured through the filter, and the deposit is then washed out, the last particles being removed by the aid of small strips of filter-paper which have previously been dried at 100° and weighed with the tared filter.

XANTHIN, HYPOXANTHIN, AND GUANIN.—The proportion of xanthin in the urine of children is found by Baginsky to be increased in acute inflammation of the kidneys, the percentage being from 0.0113 to 0.0285, while the normal varies from 0.0028 to 0.003.

In fresh-beef pancreas the same author found 0.2797 per cent. of guanin, 0.1145 of xanthin, and 0.1281 of hypoxanthin; but after putrefaction out of contact with air these percentages had fallen to 0.0069, 0.0455, and 0.081, hypoxanthin best resisting the decomposition. No harmful action on the animal organism appears to be exerted by the administration of these bodies.

The separation of hypoxanthin and guanin by solution in ammonia, in which guanin is only slightly soluble, is impeded by the presence of foreign substances, especially peptones. For this reason Kossel precipitates both bodies by an ammoniacal silver solution, and crystallizes the mixture from hot nitric acid in presence of urea. The separation by ammonia can then be accomplished after the removal of the

silver, which is best made by hydrogen sulphide. There is a loss of about 5.5 per cent. of guanin by this method, as a part of that substance is thrown down with the xanthin-silver compound, and still another portion is oxidized to xanthin by the nitric acid.

DETECTION OF QUININE, NARCOTINE, AND MORPHINE.—Vogel's test, which consists in the addition of bromine-water, potassium ferrocyanide, and borax, enables the detection of quinine in a dilution of one-sixty-thousandth, the reaction producing a red color. Arnold Eirolart states that if mercuric cyanide be substituted for the ferrocyanide, and calcium carbonate for the borax, the delicacy of the reaction is so much increased that one-five-hundred-thousandth of quinine becomes evident. The red color produced by heating a quinine solution with bromine-water is produced by one-fifteen-thousandth, but by adding calcium carbonate before the bromine-water it is developed by one-fifty-thousandth. A concentrated solution of quinine becomes, under these circumstances, violet in the cold and blue when heated, but an excess of bromine restores the violet color. If a neutral quinine solution is mixed with an excess of bromine and boiled until the excess is expelled, a beautiful green fluorescence occurs on cooling, and endures a dilution to one-fifty-thousandth of quinine.

If a small excess of bromine be added to a hydrochloric acid solution of narcotine, and the liquid be neutralized with calcium carbonate, it becomes red; more than one-thousandth of narcotine in the solution produces, however, a violet or blue color. Acetic and tartaric acids diminish the intensity of the coloration.

When a morphine solution is heated after the addition of bromine and calcium carbonate, the red color is produced if one-twelve-thousandth of the alkaloid be present. A greater dilution gives an orange or brown tint. Strychnine, cinchonine, and caffeine give no characteristic reaction with bromine-water and calcium carbonate.

A GLUCOSIDE RESEMBLING DIGITALINE in its physiological properties has been extracted by E. Harnack from an arrow-poison of Africa. This substance is soluble in alcohol, and is precipitated in flakes on the dilution of its solution by water. It dissolves freely in acidulated

water, like some of the non-nitrogenized glucosides which are not readily soluble in alcohol, but is insoluble in ether. It is precipitated from its acid solution by tannin and by the phospho-tungstic solution. By boiling with hydrochloric acid it yields a resinous body whose physiological action is like that of digitaline.

PTOMAINES IN HUMAN CADAVERS.—Breiger has continued his investigations of the basic products of animal decomposition, and has examined the extracts of the internal organs of bodies that had been kept in a cool cellar for twenty-four or forty-eight hours. The organs were finely hashed and extracted with water, enough hydrochloric acid being added to give the whole a feeble acid reaction. The mixture was heated to boiling and filtered hot; the filtrate was evaporated on a water-bath, care being taken that the reaction still remained acid. The thick syrup was extracted with alcohol, and the alcoholic solution treated with platinum chloride, which threw down an abundant precipitate. This was dried and exhausted with water. The insoluble residue consisted principally of potassio-platinic chloride, while the readily soluble platinum salt was recognized as the double compound of platinum and cholin, of which the nature was still further verified by decomposition with hydrogen sulphide and conversion into the gold salt. That the cholin existed already formed in the organs operated on, and was not a decomposition-product of lecithine, was proved by the fact that an organ as rich in lecithin as the brain yields no cholin when long boiled with two-per-cent. hydrochloric acid, although neurin is then obtained in abundance. Only by the continued action of concentrated hydrochloric acid does lecithin yield cholin. In these experiments no other basic product could be obtained from the cadavers.

When the decomposition is further advanced, poisonous products appear to be formed. In one case the organs of a body which had been preserved four days yielded an alcoholic extract which produced in dogs and guinea-pigs the symptoms of muscarin, and the proportion of platinum in the platinum double salt corresponded closely with that required by muscarin. Whether the substance is really muscarin, and whether still other poisonous bases are produced during the decom-

position of the human organs, Breiger reserves for further study.

THE ORIGIN OF FIBRIN.—William H. Howell has reviewed the work and theories of Schmidt and Hammarsten on the coagulation of blood, and has repeated the experiments of the latter with confirmatory results. According to Hammarsten, fibrin is produced from fibrinogen by the action of a ferment developed in the serum of the blood. Howell's experiments were made with the blood of terrapin. This was drawn directly from the pulmonary artery into a cylinder packed in ice, and was allowed to stand from twenty-four to forty-eight hours, after which the clear plasma was drawn off with a pipette. This may then be kept for several days in a warm room without coagulating, but clots in a few minutes when mixed with a little clear serum from a clot of colorless plasma, affording an "interesting proof that the ferment is formed by the breaking down of the white corpuscles, and that the fibrinogen exists preformed in the plasma." The clear plasma was filtered and treated with an equal bulk of saturated sodium-chloride solution, and the precipitated fibrin was collected on a filter, pressed, and still further purified by treatment with a solution of salt. It was then dissolved in water and an almost clear solution obtained.

The ferment was prepared by Schmidt's method of precipitating serum with alcohol. The solutions did not become opalescent when heated to 80° C., and in most cases remained clear even on boiling, showing that no paraglobulin was present. When the solution of this ferment was added to the pure fibrinogen, a firm, colorless clot was formed in from ten minutes to an hour at ordinary temperatures.

The fibrinogen obtained by Howell from terrapin's blood differed from that obtained by Hammarsten from the blood of mammals in being completely precipitated from its solutions by heating to 56–60° C., and the filtrate gave no opalescence when boiled, and no reaction with the xanthoproteic test. On the other hand, Hammarsten's fibrinogen was only partially coagulated by heating to 60°, a small portion of the original fibrinogen still existing in the solution as a new globulin, coagulating at 64–66°. Howell finds also that the fibrinogen from hydrocele liquids which are not spontaneously coagulable is completely precipitated at 60°.

When a solution of fibrinogen from the blood of terrapin is caused to coagulate by the ferment, and the fibrin is removed as rapidly as it is formed, so that none of it may dissolve, only a portion of the fibrinogen is converted into fibrin, the remainder staying in the solution as a new globulin, coagulating not at 64-66°, but between 75 and 80°.

It was found that five minutes' heating to 70° impaired the activity of the ferment, but did not destroy it; five minutes' heating to 80° destroyed its power entirely, yet a small clot can be obtained with fibrinogen when the ferment has for one or two minutes been heated to 100°.

H. G. Beyer has published a paper on THE ACTION OF CARBOLIC ACID, ATROPIA, AND CONVALLARIA ON THE HEART. His conclusions are that the depressant and paralyzing action of phenol on the heart can be much diminished and even held at bay by a free supply of oxygenated blood, thus showing the importance of respiratory activity in cases of phenol-poisoning where there is danger of death from failure of the heart's action.

The influence of atropia depends on the amount of work done by the heart; when this work does not exceed the normal, atropia produces only a slight stimulation; but when the muscular tone of the heart is lowered, the stimulating action of atropia is powerful. When the heart had been poisoned by phenol, atropia was found to increase its rate and its work, and a more rapid recovery from the effects of the phenol took place under the influence of atropia.

The experiments made with convallamarin showed that small doses slightly increased the pulse-rate and the work done, finally arresting both auricles and ventricles in systole. Medium doses or frequent small doses first increase the rate but diminish the work, while large doses paralyze the heart in a short time, arresting it at any point between systole and diastole.

THE POISONOUS ACTION OF HYDROGEN SULPHIDE has been studied by G. Smirnow, who finds that one-tenth per cent. of this gas mixed with the air causes no notable poisonous effects; one-third of one per cent. proved rapidly fatal to dogs. Saturated hydrogen-sulphide water introduced into the stomach of dogs increased the tissue-waste, as shown by the increased proportion of urea, sulphuric acid, and

phosphoric acid in the urine. It was not found to produce any effect on the activity of the gastric and pancreatic juices.

ON THE INTENSITY OF THE RESPIRATION - PHENOMENA IN AN ATMOSPHERE RICH IN OXYGEN. — Saint-Martin has made some experiments on the old question of the influence of the proportion of oxygen in the air to the intensity of respiration, and his figures, given in the following table, seem to confirm the older opinion that this proportion is of little importance. The first four experiments were on guinea-pigs, the last four on rats.

Percent- age of oxy- gen in the air.	Tempera- ture of the air. De- grees C.	Carbon di- oxide ex- haled per hour. c.c.	Oxygen absorbed per hour. c.c.	CO ² O ²
20.9	18.5	515	570.4	0.89
50-66	18.1	513	583	0.87
20.9	13.1	598	660	0.91
40	13.2	613	670	0.91
55	12.3	506	536.5	0.94
20.9	12.4	525	514	1.02
75	9	535	586	0.91
20.9	9.1	551	569	0.97

A long series of experiments by Lukjanow has led him to the same conclusions as those deduced from those of Saint-Martin.

NOTES OF HOSPITAL PRACTICE.

PHILADELPHIA HOSPITAL.

SERVICE OF CHARLES K. MILLS, M.D.,

Neurologist to the Philadelphia Hospital, Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic, etc.

Reported by WILLIAM H. MORRISON, M.D.

A CASE OF NYMPHOMANIA, WITH HYSTERO-EPILEPSY AND PECULIAR MENTAL PERVERSIONS—THE RESULTS OF CLITORIDECTOMY AND OOPHORECTOMY—THE PATIENT'S HISTORY AS TOLD BY HER-SELF.

GENTLEMEN,—I have brought this patient before you for a few minutes in order that you may note her appearance. She is 29 years of age, and has suffered for a number of years from a form of nervous or mental trouble, and has had at times hystero-epileptic and hystero-cataleptic attacks. She has had certain surgical operations performed, of the results of which I shall speak later. I shall now ask her to go out while we discuss her case. It is with some hesitancy that I have made up my mind in regard to lecturing on this patient, but the subject is one of such extreme importance and interest that I have

decided to do so. [The patient left the room.]

This is a case of nymphomania. I hold in my hand the history of the case prepared by the patient herself, which I shall read. It is not only an interesting story, but pathetic and almost dramatic in some of its details.

The woman came to me nearly two years ago at the Polyclinic, with a note from a physician. She wished me to send her to an insane hospital, and implored me to put my name to a certificate of insanity. This I refused to do, but I inquired into her case, put her on some medicinal treatment, encouraged her, and had her come to the Polyclinic from time to time. She left the city to live with some relatives, but they were unable to keep her, or she would not stay. She then returned to this city, with other relatives, and here also she was a burden to herself and every one else. She again came and asked me to send her somewhere. Finally, I told her that I would try to get her into the nervous wards of this hospital. At first she refused to come here. I, however, gave her a note, which after some time she used.

I shall now read her history as prepared by herself. It is to me, and I doubt not that it will be to all students of the nervous system, a highly interesting recital.

I inherit from my mother a morbid disposition, from my father an opposite temperament. My nature is made up of contradictory elements. The receptive capacity of my brain and power of mental action have always exceeded my power for physical action. Before I was six years old my sexual feelings were aroused by intercourse with children. My general health was good until I was twelve. Then came a change of mental condition. I was taken from school. Soon after I was told, by one who taught me to do wrong, that if any man knew of it he wouldn't marry me. I did not know what it meant, and was ashamed to ask any one. Menstruation commenced in the same year, but I was taught nothing of the laws of my being. I lived twenty-two years before I knew how I came into the world. I was guilty of immorality when I did not know what it meant. My girlhood was spent in brooding over what I could not understand. I shrank away from men, and hid my impurity from every one. At twelve years of age I commenced to feel an irritation in the vagina and about the neck of the uterus. Years after there was found some cause for this, when an examination was made, but whether there was naturally an abnormal development, and puberty bringing

the organs into action also brought friction, which was the *cause* of my trouble, or whether it was the *result* of masturbating, can never be known. I did not know that an orgasm could be produced by masturbation. I handled myself to quiet the excitement. Gradually my nervous system became affected. The first symptom was starting and crying out at sudden sounds. Then I became subject to sudden depressions of vitality and spirits, which I generally regained after the appetite had been satisfied. Getting into a bath or merely washing the parts would often bring it on. Then the weakness began to settle in the nerve-centres of different organs,—first the heart, then the uterus and brain, causing pain and a kind of stoppage in their regular action. Hysteria was the result. When the heart was affected, I had pain and partial loss of power in the left arm. Once the shock from a terrible noise took power and feeling from both arms. At first the spells were merely weakness. I cried or laughed or screamed. It is two or three years since they first took the form of spasms.

My first treatment was medicine to try to strengthen my nerves. The personal influence of my doctor induced me to exert my will, but any good effect was but temporary. If I succeeded in resisting temptation to do wrong, the orgasms would take place without my volition,—that is, my will was so determined not to have anything to do with it—I forced myself into such a rigid state of self-control—that mind and body seemed to separate and the latter would act independently, while I seemed to be some other person, deprived of all power except consciousness. Or they came on with involuntary contractions of the muscles of the parts, the vibrations running up the spine to the brain and shaking every nerve in my body.

I had at one time slight ulceration and inflammation and falling of the uterus.

The next thing tried was cutting the clitoris,—extirpation it was called; but it grew again, so that other doctors scarcely believed it had been cut. Perhaps the manner in which it was treated had something to do with this. The parts were drawn together and sewed, while the second time it was done they were stretched apart until they healed. The relief from this lasted only six weeks.

At times I was almost crazy from worrying because I could find no relief. I tormented the doctors to operate again, but they were afraid it would kill me. Once I took an overdose of medicine, hoping it would kill me. I would have taken my own life, but kept hoping to persuade some one to operate. At times I felt tempted to seek the company of men to gratify my passion, but was too modest and held my head too high to put the desire into action. I held myself above anything that looked "fast," and never soiled my lips with unclean conversation.

In 1881 I entered a hospital. I was examined, but it was decided not to operate, but to give me strengthening treatment. I had not been educated as I wanted. I had earned my living by labor that occupied my hands, while my mind ambitiously dreamed of work that I would have to climb to. When I entered the hospital I decided that my vocation was to study the care of the sick. When I was given work to do I put my heart in it. In the seven months that I spent there, happy and living up to my highest intelligence, I was not once troubled with the nymphomania; but when I had to give it up and go away, crushed with disappointment, with weakness and poverty shutting out hope of attaining what I desired,—when I had again to spend my days in work that held no interest for me,—the old morbid depression came back, and with it the disease. I have also noticed that when my affections are aroused it counteracts animal passion. I could never love a man because he was a man. My tendency is to worship the good I find in friends. I feel just the same towards those of my own sex. If they show any regard for me, the touch of a hand has power to take away all morbid feeling.

Twice I had an outbreak of disease in the glands of the axilla,—swelling and lumps like blind boils. I was subject also to an intense itching—peculiar to an anæmic condition—about the throat and wrists. At times after passing urine I felt as if part of my life had been drained away with it.

When I began to read the physiology of the nervous system, and of experiments that had been demonstrated on animals, it was revealed to me that what was needed was to cut some connection of the uterus with the spinal cord. I explained my theory to one of the physicians of the hospital, where I again went for examination. A consultation was held. Both ovaries were found to be enlarged, the right one the most. It was decided that the only thing practicable was to remove them, as a questionable experiment. This operation was performed. Subsequently I was threatened with peritonitis. The inner part of the walls had grown together, when an abscess formed in the wound. Trying to lie in one position set me wild. I had to be kept under the influence of morphia, which was found injurious and discontinued. For weeks I had spells of nervous excitement. If I fell asleep I would waken moaning and crying. I had to be drugged to keep me quiet. It is supposed that the prostrating effect of those medicines on my brain had much to do with its subsequent continued condition of partial volitional paralysis. After the wound began to heal I experienced what I suppose to be the feeling of a dipsomaniac when suddenly deprived of alcohol. My whole nervous system was craving the stimulation it was accustomed to. The clitoris was so sensitive that it made me twist all about. Another consultation was held,

and it was thought it would be best to cut it away. This was done seven or eight weeks after the oöphorectomy.

Since the removal of the ovaries I have been able to control the desire when awake, but at times in my sleep I can feel something like an orgasm taking place. My experience leads me to say that my cure (?) is not due to the absence of the ovaries: there is no diminution of sexual feeling. There would be as much excitement of the parts if the clitoris were still there. If my will gave way I would be as bad as ever; but the operation necessitated the cutting of some nerve or nerves which transmitted sensation from the sexual parts to the spinal cord, thus involving the brain in the general excitement and overpowering the action of the will. Since this cutting there has been a separation, so that when there is excitement it travels only as far as where the separation exists and then passes off. The spine and brain are not affected by it, and my will can rule when awake. My condition while asleep is the same as before I was operated on. I have been told that it is beyond the reach of human knowledge to explain this matter; but I am positive that that is the way in which the cure was effected.

Menstruation had always been irregular, at times attended with congestion, so that I have had cramps as long as twelve days before the flow would come on. It was nearly time when I was operated on, and it came on the third day after. Nearly eight months after there was a slight flow for three days. A week previously I had a congestive chill and pain during that time. At times since I have had a simulation of all conditions during menstruation, so real that I was surprised to find no show. I have been subject to flushes of heat since losing the menses. I have had intense pain in two spots where I suppose the inside cuts were made and in the cicatrix, but no cause could be found on examination. I have had congestion of brain, and have had nervous chills with pulse and respiration affected, so that my blood seemed to be under no control, but whirled around, producing a sensation like an electric battery gives all over me. I have had spells of catalepsy which lasted several hours; I happened to be in one when it was time for my temperature to be taken. It was about normal before and after, but while in that condition marked 101°. I have been sitting on a chair when the power to retain an upright position would leave me; I would have to slip down and lie on the floor until I felt strength to get up. I have tried to walk when too weak and have been struck motionless; I had not volition enough to move my feet: if any one came to help me, they dragged after me. If left alone, my grasp would relax from any support and I would drop to the floor.

In all my attacks my mind is like that of

some persons who have been supposed to be dead and afterwards have told that they knew all that went on, yet, even if the coffin-lid was screwed down, had not power to prevent it. My spasms commence with pain in back of head, as if a strong hand had a grasp there and I was struggling to get loose. I twist about and grip with my hands so that no one can loosen them; my limbs extend and grow rigid. I appear to be holding my breath, and turn black in the face, because there is stricture and oppression of heart and lungs; the muscles of the throat contract and make noises; I lose power of speech; I have facial spasms. I never fall like epileptics, but have to lie down. Shocks and counter-irritation fail to break these spasms, but serve to intensify my sufferings.

Within the last three months the cerebral symptoms have diffused through the cord. I have intense pain that settles in spots; I scream and become hysterical because the physical power to bear pain is gone. These attacks, although as severe as the others, do not have as injurious an effect as when settled in the brain; do not have the jarring in my head that makes me feel so bad after a spasm; my condition is more natural. I cannot lie straightened out. In one spell the cord contracted and drew my head back and down towards my heels, so that I was in the shape of a bow. Sometimes the lower limbs are in constant motion. I have only partial use of my brain, sometimes none at all. This applies not only to disagreeable exertion, but to what would add to my own pleasure. When I reach the point where I feel that I must stop what I am engaged in, I could not go on for any consideration. When weak, I cannot walk in a straight line.

Mental Aspect of the Case.—When I asked to be sent to an insane hospital, it was because I have been at times an irresponsible being. My mind is sane, but my actions are insane, because the physical power of self-control is gone. This condition comes on from extreme weakness or from being excited by aggressive treatment. When my head is too full of blood I am half delirious. The symptoms are talking like persons do who have been etherized, laughing, singing, restless walking, staring eyes in incessant motion. Music has a peculiar effect on me when I am weak. I have been sitting, listening to my brother playing, and have felt like springing at his throat; I would have to leave the room. I have felt like getting out of bed to go around and shake my family in their sleep; I would put a wet towel on my head to prevent it. In such impulses I have no desire to harm any one or to destroy anything, but feel as if it would relieve the tension of my nerves. When I feel pretty well and no one worries me, there is no insanity about me.

I will also record here a case of what Hux-
VOL. XV.—15*

ley calls a delusion of judgment. On two occasions when I had cried until I felt as if my brain was drained of all strength, I felt a sensation as if some one were holding ether under my nose; I struggled just as I do when it is given to me; I opened the window to let the air blow in my face, but I still smelled and tasted it; it went into my stomach and turned me sick. I did not vomit, but belched up wind, which brought the ether-taste with it, just as I have done when coming to. This was two hours before dinner; I thought that after I ate something the sickness would leave me, but it did not for several hours after. I did not imagine that there was ether near me. I knew that there was none.

Since writing this I have had an argument with a person who, without any temptation or experience, asserts that the grace of God would take the place of alcohol to a dipsomaniac. That disease differs from mine inasmuch as the appetite cannot be satisfied without taking something into the mouth,—contractions of the throat could not do it,—while in my case the appetite would satisfy itself without me doing anything. I can testify, however, that at first, when I felt tempted, I would kneel and honestly pray to be kept from doing wrong, and then get up and do it; not because I wanted to, but because my life could not go on until the excitement was quieted. Later on, when the orgasms took place of themselves, I would resolve to stay on my knees until I got over it, and while I was praying my body was so contorted with the disease that I could not get away from it even while seeking God's help.

As you see from this history, the patient is a rather well educated woman. Her familiarity with medical terms is to be explained by the facts that she was educated as a trained nurse, and that she has also read much in reference to the nervous condition from which she suffers. I am in the habit of encouraging intelligent patients with nervous diseases to write out their histories in detail. By so doing, often much more light is thrown upon the case than by an ordinary study.

I have a few comments to make upon this history. First, in reference to the early age at which this sexual inclination occurred. The patient admits that as early as six years of age, and perhaps even younger, she had inclinations of that kind, which were gratified in a morbid way by allowing other children to handle her. This is interesting in reference to certain practical matters, such as operation and treatment; and also with reference to what is at

the basis of conditions of this kind. I have observed evidences of sexual excitement in children as young as from two to four years of age. I remember seeing, some twelve years ago, a girl between four and five years of age, who had marked evidences of sexual excitement, and who was in the habit of getting into all sorts of extraordinary positions to accomplish a species of abnormal masturbation. Nothing that could be done in that case seemed to have any effect. Evidences of this kind are more frequently observed in young boys than in young girls. In these cases circumcision, or some other operation on the prepuce, is performed with the idea that the symptoms will be relieved by the operation. I have had the operation performed in my own practice; and in hospital and private practice I have seen from twenty-five to fifty of these operations. My experience is that circumcision, and breaking up of adhesions and removal of local irritation, will do a certain amount of good, but that, as a rule, these procedures do not entirely cure these cases, and in some instances they appear to do but little good. It is, however, good practice to remove all peripheral irritation. This goes to show that the condition which causes the symptoms in many of these cases is some defect or change in the nervous system of the individual which cannot be removed by mere operation, and is only partially benefited by such treatment.

This patient, as you have heard, has been subjected to clitoridectomy. This operation was proposed and performed by Dr. Bedford Brown, who made it somewhat famous or notorious, and got himself into trouble with the English medical profession by performing it, and, if I remember aright, he was expelled from some of the societies for resorting to this operation so frequently as he did. In the present day such would probably not have been the result, for the tendency is now to operate on anything and everything for the relief of nervous conditions. In this case, as the patient says, the first operation was not complete, but on the second occasion the clitoris was entirely removed.

With regard to her statements in reference to the effect of work, I have no doubt that there is some truth in them. Our experience with this patient has shown us that if she can be occupied mentally and physically she is better than at any other time.

She is, however, one of those unfortunate individuals who, while benefited to a certain extent by occupation, are incapable of working steadily as others do. She works by fits and starts, as the fancy suits her. It is impracticable to put her at any special work or give her any definite duties to perform, for she could not be relied on in special time of need.

She states that since the removal of the ovaries she can control the desire while awake, and has a curious theory to account for this, some of the inconsistencies of which are quite apparent. I have questioned her closely as regards this statement, and I think it may be accepted as true.

It is supposed by those who have seen her in the attacks which she has described that there is a certain amount of malingering; and in these cases it is difficult to distinguish between an absolute inability to will and malingering. Her description is a good one of the epileptoid variety of hysterio-epilepsy. She has the peculiar difficult respiration, some irregular spasms, and some curious volitional conditions, but not the well-marked phases of a distinct and complete hysterio-epileptic attack.

In conclusion, I wish to say a few words as to this case, its nature and probable outcome. There are certain varieties of nymphomania, and nymphomania itself is often confounded with erotomania. Nymphomania in the female or satyriasis in the male is a condition in which there is extreme and abnormal excitement of the sexual passion. It is a genic, organic feeling, rather than a condition associated with the sentiment of love.

Hammond, in his recent work, treats of it under the head of acute mania, and considers cases of nymphomania as special varieties of acute mania; and undoubtedly this is the correct way of looking at the subject in a large number of cases. In man the corresponding mental and nervous condition often leads to the commission of rape and murder. This is more likely to be the result in man on account of his aggressive nature.

In woman, as in this case, the affection is more likely to show itself with certain collateral conditions, as spasms, hysterio-epileptic and cataleptic conditions, with screaming, crying, and violent hysterical attacks of various kinds. In this patient there is, as you have heard, a tendency to

impulsive acts, but this has not gone so far as to lead to violence.

Although a nymphomaniac, her intelligence and education have enabled her to resist her passions better than is the case among the uneducated. I have seen a number of nymphomaniacs in this hospital. I recall one in the case of an epileptic and also hysterical girl who was in the nervous wards of this institution for a number of years and finally died in an insane hospital. This was a case of hysterio-epilepsy with separate crises. She had violent, true epileptic seizures and at other times had attacks of a truly hysteroid character. She was a nymphomaniac, and had to be constantly watched. She would make indecent proposals to almost any one, and would masturbate and expose herself openly. She also had occasional maniacal attacks, and a few months ago she passed into an insane hospital and died there.

There is a form of insanity, an emotional monomania, called erotomania. Nymphomania and erotomania are sometimes not differentiated in practice, and in some books the distinction is not made. They are, however, really different conditions. Erotomania and nymphomania may be associated in the same case, but I think it more likely that erotomania will not be present in a case of nymphomania. Erotomania may exist as a special symptom or it may be one of the evidences of monomania. It is found in both men and women. Patients with this condition may have no sexual feeling whatever. The individual has some real or imaginary person to love. This is a platonic, sentimental, or affected love, and it may be for a person of the same or of the opposite sex. It is rather the emotion of love which is affected, not the sexual appetite as in the present case. It is shown rather by watching or following the footsteps of the individual, by writing letters and seeking interviews. In the history of Guiteau an incident of this kind is mentioned, I think only by Beard. It was known at one time that he followed a lady in New York whom he supposed to be the daughter of a millionaire,—followed her, watched her house and carriage, and wrote letters to her. At another time, out West, he showed the same attentions to another lady. He went to the house, but was kicked out. Many of the great singers have been followed in this way.

Some time ago I examined a man condemned to be hanged. I saw him within twenty-four hours of his death. He was rather good looking, but thought that he was much better looking than he really was. He was an erotomaniac, whatever else he may have been. In the shadow of the gallows he told me with much interest of a certain lady in the town who had visited him and was in love with him, and how all the women in the neighborhood were in love with him. A letter was shown to me which he had written to one of these ladies. He had various pictures of females cut from circus-posters hung in his cell, and he even adored these. He had many of the developments of erotomania; but during my visit he made no indecent or profane remarks.

Let me next say a few words in regard to prognosis. The prognosis is not hopeful as to perfect cure. These cases are, I believe, intrinsically nervous or mental in their nature, and therefore I believe that operative procedures, as oophorectomy and clitoridectomy, will not radically cure the patient. In justice to those who believe in these operations, it might be said that this girl has been better since these operations have been performed. She has been better as respects masturbation, but she has had the same nervous manifestations. It is possible that by some less serious procedures and by suitable general treatment we could have accomplished as good a result.

The only thing to be done in the way of treatment is to treat such a case as any other cerebro-spinal or general nervous defect. Employment is exceedingly useful. The removal of any local irritation or special exciting cause will be of service. The time to do most good in these cases is in infancy, childhood, and youth. At this time we should by moral and intellectual development endeavor to eradicate as far as possible the tendency in the wrong direction. When we come to nymphomania, accompanied or not by hysterio-epileptic or cataleptic symptoms, severe measures are sometimes called for, even cold bathing. I do not, however, believe in rough treatment, as is practised by some, particularly by those who do not think deeply. Such persons are apt to consider these patients as frauds; and to a certain extent they may be right. The patients may exaggerate the conditions. This tendency

is particularly apt to be brought out by aggressive treatment. It is necessary to use a combination of firmness with judgment, moderation, and kindness in the treatment of conditions of this kind. Although severe treatment may cause improvement at first, such treatment usually recoils upon itself. Just as an insane man may suppress his delusion when subjected to harsh treatment, so these cases may be apparently benefited at first. It is only the educational treatment, the moral treatment, the treatment of local conditions, and the general building treatment that will accomplish permanent good.

As to the question of operating, I am not prepared to speak positively. I have seen cases which have been relieved, but I have never seen a case in which these operations exerted a clear and absolute curative effect, and we should not expect this, for the simple reason that we cannot restore an impaired or imperfect nervous system by removal of the clitoris or ovaries.

TRANSLATIONS.

PHYSIOLOGICAL EFFECTS OF BOLDO.—

Although boldo has been in use in France for a decade as a tonic and hepatic stimulant, it has not attained a very high position in the estimation of therapeutists, probably because we are in possession of other drugs which satisfactorily answer the purpose for which it has been used. Recently, however, new properties have been ascribed to it. M. Laborde, at the Société de Biologie (February 28), declared that boldo was decidedly hypnotic, producing also a certain amount of anæsthesia both of the general organs and special senses. In toxic doses it kills by arresting the action of the heart. It excites the hepatic and renal secretions, and is discharged principally by the kidneys. Ten to fifteen grammes is sufficient to kill a dog of ten to twelve kilogrammes. The alkaloid (boldine?) is quite rare, and is very poisonous.—*Le Progrès Médical*.

FOR ECZEMA OF THE GENITALS.—

R Potassii chloratis, 1.50 gm.;

Vini opii, 2.50 gm.;

Aquæ puræ, 1 litre. M.

Apply on a compress. To be preceded by a warm sitz-bath or by mild cataplasms

if there is a certain degree of attendant inflammation.—*La France Médicale*.

RESULTS OF LARYNX-EXTIRPATION.—

From a review of all the cases thus far reported of extirpation of the larynx, seventy in all, Zesas (*Archiv für Klinische Chirurgie*, B. xxx.) concludes that the operation might produce better results if the patients would come under treatment earlier. Five patients with sarcoma were operated upon, with three deaths; of sixty with carcinoma, forty-two died, fifteen recovered, three did not report the result. Of syphilitic stenosis, perichondritis, and tubercular new growth one case of each presented themselves, and all died, while one with polypus and one with papilloma of the larynx recovered.—*Centralblatt für Chirurgie*.

TREATMENT OF WHOOPING-COUGH.—

Belladonna has an established reputation in pertussis, and is the principal agent in the following formula employed by Dr. Roger (*La France Médicale*). He gives a syrup of belladonna (two parts) and of valerian and digitalis (of each one part), from one to six teaspoonfuls in the twenty-four hours, according to the age and the intensity of the symptoms. For children under two years, M. Roger commences with half a drachm a day, and gradually increases the amount to two drachms daily. It can be given in milk or simply mixed with water. When it is difficult to administer in this form, he replaces the syrup by the tincture:

R Tr. belladonnæ, 10 parts;

Tr. valerianæ vel moschi, 5 parts;

Tr. digitalis, 5 parts. M.

Of this the aggregate quantity for an infant under two years is five drops daily, gradually increased by five drops until thirty are given in the twenty-four hours. For children from two to five years of age, ten drops may be given, and increased in the same way.

LUPUS ERYTHEMATOSUS CURED BY ARSENIC.—Mr. Jonathan Hutchinson reports an instance of cure of lupus erythematosus of the face cured apparently by the persistent use of arsenic continued for fifteen months.—*British Medical Journal*, p. 535.

DR. E. T. REICHERT has been appointed by the Trustees of the University of Pennsylvania to lecture for one year on physiology in the Medical Department.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 18, 1885.

EDITORIAL.

SHALL THE AMERICAN MEDICAL
ASSOCIATION BE REORGANIZED?

THE meeting of the American Medical Association, which convenes in New Orleans on the 28th inst., it is expected, will in point of numbers probably fall considerably below the average attendance of the last few years. Owing to the fact that the locality selected, although possessing special advantages from other points of view, is quite remote from the geographical centre of membership, many of the delegates and older members will be prevented from attending. At the same time it is hoped that the meeting will excite an interest in medical organization and in the Association itself, and will witness the accession of many new members from that section of the country. It is to be expected, and it certainly is no reflection upon them to state the fact, that the large proportion of new members received at this meeting will be entirely unfamiliar with the routine methods of transacting the business of the Association, and therefore unable to decide intelligently important questions which may come before it for its decision, and which may seriously affect its future policy and usefulness. This condition of affairs shows an inherent weakness in the present organization of the American Medical Association which demands and should receive the earnest consideration of every member of this body. It would be possible under such circumstances for a small clique of determined and not too scrupulous men to form a ring which would very effectively rule the Association and perpetuate itself in power. If the annual meeting of the Association

is merely an annual mass meeting, then we should exercise extraordinary watchfulness so as to escape the just criticism that mass-meeting methods are pursued in its management.

The Association, we believe, needs reorganizing on a plan commensurate with the great interests and responsibilities which fall to its charge, and the present time is favorable for such a change. It publishes a weekly journal, which is well established and is now a creditable publication, which requires the expenditure of thousands of dollars and has an available income for the current year estimated by the editor at twenty thousand dollars. For this journal an editor must be elected at this meeting, and in all probability a new place of publication decided upon for the current year. The Association, in the estimation of many of its members, has reached the stage of development at which it should be incorporated and have a permanent office in some large Eastern city. The journal should be published where it would be most convenient for the members, and where the greatest facilities could be provided, and we need not hesitate to say that we think that it would be advantageous, from more than one point of view, to the Association to have the periodical published in Philadelphia. As suggested by the venerable editor of the journal, with the income above named the Association could afford to have its own publication office, well supplied with type, where it could be set up, and—if the Association continued to grow—where it also would soon be able to place the presses for its publication. With \$12,000 per annum to pay for the current expenses of publication, and \$6000 for the editorial department, and \$2000 for incidental expenses (the estimate furnished by the editor in the issue of the Association Journal for April 4), the suggestion certainly seems not only feasible, but almost imperative.

It would also appear that the time has

come for a change in the manner of conducting the meetings. The Association has increased to such an extent, and the interests connected with it have become so important, that it is desirable that its annual meetings should be held where they can be attended by the greatest number of its members. Semi-annual or quarterly meetings of the Association, or of branch Associations, could be held in different parts of the country, to keep up the interest of the profession in this representative organization, if desired. It would also aid in maintaining interest in the Association if the disabilities of permanent members were to be removed, so as to allow them to vote on all questions which may come before them affecting the welfare of the Association or of the profession. We would also suggest, if it would not be considered as presumptuous, that not only the editors of the Association journal, but also each of the other officers who are obliged to attend the meetings in their official capacity, should receive an honorarium for their valuable services.

As the inherent defects of the present methods of conducting the business of the Association have become obvious, the Association having become unwieldy owing to its remarkable growth during the past few years, it is hoped that a carefully-considered and well-matured plan of reorganization may be presented at the present meeting, and a wise and consistent course of action be devised and adopted for the future.

PUBLIC HEALTH NOTES.

IT is quite gratifying to those interested in matters affecting the health of this city—may their tribe increase!—to see how, under the pressure of a threatened epidemic, the proverbial inertia of political bodies is in a measure overcome, so that sanitary improvements become possible which under other circumstances and at other times would be demanded in vain.

The spirit of our corporate rulers was shown in the action of the last Councils in passing a resolution reprimanding the chief engineer for delivering a lecture before the Philadelphia County Medical Society upon the water-supply of the city, in which he pointed out some of the defects and disadvantages of the present system and suggested means for remedying them. This precious piece of official insolence declared that the people had no right to obtain information upon health matters from those best qualified by their experience and official position to give it, and also asserted that the true policy was to keep such knowledge hidden, for fear that business interests might suffer. It appears evident that some members of Councils have a very imperfect idea of the scope of city government: they need to learn that the chief function of this great corporation is not business or money-making, but to secure the greatest good to the greatest number, and it primarily owes its reason for existence to the general desire of affording the highest attainable degree of protection to the lives, liberty, and property of all.

Public health is the first essential in material prosperity, and should occupy the first place in the minds of those chosen to compile, interpret, or execute the laws. The water-supply of Philadelphia was one of the chief concerns of the great founder of the city, and was carefully and judiciously provided for. Unfortunately, the growth of the suburbs of the city along the Schuylkill and the establishment of graveyards along its banks have in an unexpected way seriously and apparently irremediably contaminated our present water-supply. The suggestion of Col. Ludlow to select another source from which a practically unlimited supply of comparatively pure potable water can be obtained—from the Delaware River above Trenton—is one that deserves serious and immediate consideration from the city authorities, and should not be intemperately

and inconsiderately rejected. In the mean time, the plan of constructing intercepting sewers along each side of the Schuylkill, which are estimated to cost millions of dollars, and which cannot be completed for many years to come, had better be suspended, for the present at least, as the chief engineer has suggested.

The City Board of Health has begun a system of house-to-house visitation by sending twenty-five inspectors into the most crowded and dirty portions of the city, who are reported to be doing good work, and, instead of meeting much opposition, have been well received by the people who dwell in such insalubrious localities.

The street contractors are also incited to increased activity by the fact that the stereotyped report of the police force each week of "dirty streets" is finally acting in a manner which prejudices their prospects of obtaining their usual warrants for work not done and material not furnished.

While the City Board of Health is both active and efficient as far as its powers extend, we are glad to see that there is a prospect that at the present session of the State Legislature a State Board of Health will be created. Owing to the patient perseverance in well-doing of the special committee of the State Medical Society, after many failures, the bill has passed the Senate, and will probably succeed in also passing the lower house, if that august body does not exhaust all its energies in the great political game of chess now in progress, in which the future government of Philadelphia is the stake. We suggest that a supreme effort be made to secure the passage at the present session of this act, the text of which is given on another page. Such a favorable opportunity for securing a State Board of Health may not be again presented, and all who are interested in the public health and who have any influence with our representatives at Harrisburg are urged to act at once.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

ERYSIPELAS and the Antiseptic Method was recently made the subject of a lecture by Prof. Verneuil, in which he declared that "the antiseptic method, so powerful when used against contagion in general, is not so useful against erysipelas. At the same time it is certain that erysipelas is not so common as it was. In seeking the reason for this, let us first of all show that it is true that erysipelas is rare compared with what it was in former days. From 1862 to 1864, M. Gosselin had one hundred and thirty-three cases in his wards, and a mortality of thirty-one of these. Fifty were from outside and eighty-three arose in the hospital. From 1865 to 1867, M. Gosselin adopted a series of hygienic measures (such as better ventilation, separation of the patients attacked with the disease, refusal to admit cases from outside, etc.), so that in these three years he only had forty-five cases, with nine deaths. In 1872 I took charge of the service in Piété Hospital, after M. Gosselin, and found an epidemic of erysipelas raging, following the war of 1870-71. I made an effort to stop it by applying the doctrine of antiseptics to the fullest extent, employing all the Listerian methods. At the same time I allowed the cases from outside to enter, and did not keep up the separation of patients, with the following results. From 1877 to 1880, thirty cases and seven deaths,—six cases came from outside and twenty-four occurred in the hospital. In comparing these results with M. Gosselin's you will be struck with the difference, which I think that I owe to antiseptic treatment. Is it possible, therefore, to conclude that antiseptics is all-powerful? Evidently no. But if I could have separated my patients completely, no doubt it would have shown a better result. Here is the proof. I found in the three years mentioned no less than three small epidemics of erysipelas in the wards. The first was of five cases, the second and third took four cases, so that I should have had but twenty in all were it not for these outbreaks. Last year, from September to January we had not had a single case, when on the 12th of January we received a man with a wound in the head complicated with erysipelas. This was the signal for a new epidemic, which has not yet stopped, and counts me four already of the patients in my wards. Perhaps I would be still without any if I could have treated this case in a separate ward. Abroad, they apply the antiseptic method, but I see that erysipelas still exists. Some surgeons claim to have suppressed it altogether. I wish, then, they would tell us how it is to be done, and to what we shall attribute this persistence. The development of

erysipelas in towns and without communication is without question."

Verneuil here related two cases, one of a young woman who was attacked with erysipelas while she was living alone in a château in the country, away from all danger of contamination. The other case was similar: so that there are two ways of its spread in the hospitals, spontaneously and by contagion. He then laid down the following rules, first saying that erysipelas was a disease that no doubt had a parasitic origin.

1. Doctors in towns should, whenever possible, take care of these patients at home, and by proper measures endeavor to stop the spread of the infection.

2. If they are admitted into the hospital, they must be isolated.

3. If this is not possible, then at least they should be placed in beds as far as possible from the others, and a sort of *cordon sanitaire* established around them.

4. The treatment must attempt to destroy the germs of the malady, particularly by the prolonged carbolic spray, which has the double advantage of creating an aseptic atmosphere and acting topically at the same time.

5. Against interior erysipelas the precautions must be just as great. Employ antiseptic treatment along with emeto-cathartic and antipyretic agents, acid drinks, alcohol, aconite, etc.

6. The antiseptic precautions must be maintained after the disease has disappeared, as the danger of contagion probably continues during all the period of desquamation.

Dr. Le Fort, speaking on the same subject, said that for some time he had employed camphorated alcohol. He had done it at first so that the hospital assistants would not use the alcohol, but he finds that camphor in alcohol is an excellent antiseptic. He even prefers it to the ordinary carbolic-acid solutions for treating wounds. He thought that the antiseptic should not consist only in phenol, but hoped that some definite rules would be laid down, for what does well in one case does not answer in another. Alcohol alone he found did not answer so well.

Dr. Trélat did not think it mattered much, and said that it was best to take whatever was most convenient, whether phenol, chloral, or corrosive sublimate. The main point was the use of antiseptics.

The discussion on the depopulation of France still goes on. Prof. Fournier, of the St. Louis Hospital, the great successor of Ricord, has had his say in regard to the influence of syphilis on the decrease of population. He gives the statistics of two hundred cases observed by him in which the husband was syphilitic. There had been four hundred and three confinements, which gave two hundred and eighty-eight living children and one hundred and fifteen dead at birth. This rep-

resents a proportion of twenty-eight per cent. of deaths. Not only did the children die, but there was a largely-increased number of abortions. He spoke of one case that he knew of, where the husband acquired syphilis and afterwards the wife became pregnant seven times. Three of these times terminated with loss of the child by abortion, and the other four were born dead. He gave other facts to prove that the mortality was as much as seventy-seven per cent. in children born of syphilitic parents. Having said so much, he hoped that the prophylaxis of this trouble would engage the attention of the hygienists, and that the municipal council would take it in hand. As physicians, they had much to do also in insisting with the patients that a very long treatment was needed to eradicate the disease, not merely for months, but for *several years*. Young married people should be told the danger that existed to the wife and children, and such marriages should be delayed at least three or four years. This is very important, as the doctor will be blamed for the accidents that will arise in cases where he gives his consent too soon.

M. Lunier, speaking of the fact that Dr. Le Fort had recommended the encouragement of immigration, said that he did not find that a blessing to France. It was all very well in the United States, where the immigrants become citizens of the country in a few years; but in France not two per cent. become naturalized, but come to make money, intending to return to their own country.

With reference to some clinical results of the stretching of nerves which have recently been reported, Prof. Heydenreich, of the faculty at Nancy, reviews the subject. He gives a number of cases in which it was performed with more or less success, and, after speaking of the fact that it was introduced by Nussbaum in 1860, he concludes as follows:

"The stretching of nerves is not by any means devoid of danger, and the successes that the operation has given are mostly incomplete or temporary, so that one should not attempt it until after having employed all the resources that medication offers, unless the gravity of the trouble command immediate intervention, such as tetanus. In neuralgia, we should ask ourselves if section or resection of the nerve is not preferable. When a mixed nerve is affected, as in the neuralgias of the members, there is no doubt but that elongation will have advantages over any section, as it keeps intact the motor function of the nerve, which would be suppressed in section. When the neuralgia is in a purely sensitive nerve, like the fifth (trigeminal), it is difficult to pronounce on the value of the operations, but, the elongation of the nerves of the face not being without grave danger, resection would here be preferable. In spasmodic local affections elongation has some-

times great advantages over section, particularly in reflex epilepsy and in traumatic tetanus, when one can find in these neuroses the point of departure. It will also be of service in traumatic paralysis. I would not, however, advise the operation in glaucoma, for which iridectomy must remain the best means. As to affections of the central nervous system, particularly locomotor ataxia, the operation seems to exercise such a bad influence that it will not be prudent to attempt it."

Broncho-Pneumonia.—Prof. Hardy, in a recent clinic at Charity Hospital, said, "I wish to speak to you to-day of a patient, who is now convalescent, and who came in some days ago with a grave pulmonary affection that at one moment gave us great fear for his life. The man is 60 years of age, an actor by profession, and notwithstanding his mode of life he has been in good health up to ten days ago, when he was taken with a sudden fever, followed by a quiet delirium, so that when he was brought here he could not give any account of himself. His temperature was then 38.2° (C.), and the pulse was 108. He was in a complete state of agitation, trembling like a leaf. Auscultation showed on the left side râles, noisy and crepitant, coinciding with dyspnoea, and a little cough, but no expectoration.

"When I saw him he was in the same state. We thought for a moment of alcoholism. The temperature was now 39° and the pulse 120. The tongue was dry. Examination of the chest showed that the percussion was normal, but auscultation revealed râles of a snoring character, well marked on inspiration as well as on expiration, besides here and there râles of a subcrepitant nature, without any metallic character. I wish to insist on this last point, for the metallic timbre of a râle indicates that the air is passing over hardened pulmonic tissue, therefore its absence shows that there is no induration present, such as is found in tuberculosis and in pneumonia. In presence of these symptoms we thought of the possible existence of a general bronchitis, both of the larger bronchial tubes and the smaller ones. In the subscapular region we noticed a slight, real, crepitant râle, which was only heard on inspiration. There would seem to be here, then, a point of lobular pneumonia existing, making the case one of characteristic broncho-pneumonia. The progress of this case has been interesting. For the first few days there did not seem to be any improvement,—for the moment, indeed, he seemed to be worse. However, under the influence of the administration of kermes mineral, antimony sulphuratum, cupping, and vesication, the dyspnoea diminished. He regained his consciousness, but, notwithstanding this amelioration, the râles were still to be heard, except that the fine subcrepitant râle had gone, proving that the inflammation

of the smaller tubes had disappeared. It is mostly in children and old people that we see broncho-pneumonia. In this case, while the man is only sixty, still his manner of life and profession has aged him and brought on a weakness before his time, so that a simple cold could bring on this trouble. As to the nervous symptoms in broncho-pneumonia, it is quite common to see convulsions in children caused by it, and in old people it very frequently gives rise to delirium and trembling, and it is well to bear this in mind so as not to mistake it for delirium tremens. The absence of cough and expectoration is the rule in this trouble. It is explained by the age of the patients. Infants and old people expectorate very little. When there are any sputa they are never of the rose-color or transparent appearance of pneumonia. The temperature also never remains very high. When it does rise it goes down as quickly as it comes, thus differing again from pneumonia.

"The treatment is rather difficult to formulate, but, as the cases are mostly of a weak type, blood-letting, as the rule, should not be advised; but if they should be robust it would be advisable, as it is one of the best means of diminishing asphyxia, especially wet cupping; even dry cups, with those who can ill support a loss of blood, render great service. As the bronchial tubes are obstructed, an emetic is useful, especially in children. Ipecacuanha is the best. You can also apply blisters over the affected area where you hear any *souffle*, and support the powers of the system by giving alcohol with cinchona; good Malaga wine and coffee may also be given."

Hot Water in Parturition.—Dr. Auvard uses injections of hot water in labor, and has studied its action in a series of cases. The method of causing labor had been abandoned, owing to its supposed danger, but late observations by Drs. Auvard and Pinard at the Lariboisière Hospital seem to prove that there is no danger if the injections are properly given. They are as follows:

℞ Bi-iodide of mercury, 5 centigrams;
Iodide of potassium, 5 centigrams;
Water, 1000 grams.

This is mixed with an equal quantity of water at 48° C. when used, of which about one litre (about a quart) is sufficient for the douche. It must be carefully used. The injection is *made slowly*, and not dashed against the neck. It will usually be well tolerated, as they found the uterus quite indifferent to hot water used in this way and when it is in *repose*. On the other hand, when labor has begun the uterus is very sensitive to such injections. They may be given every half-hour at a temperature of 48° C. The contractions become stronger and more energetic, though they do not increase in frequency. The rapidity of the dilatation was in most cases *doubled*. In

primiparae it took only three to four hours. They conclude as follows:

1. During pregnancy, when there were no signs of labor coming on, warm vaginal injections (48°C.), *made very slowly*, did not provoke any contraction, and it is concluded that they can be given without danger.

2. During labor warm injections increase the activity of the dilatation of the cervix and shorten not only the first period (the most painful and the longest), but also the period of expulsion and delivery.

Prof. Grasset, of Montpellier, recently delivered a lecture on the "Treatment of Morphomania," in which he said that some authors prefer to break off and suppress the remedy at once, but to do so exposes these patients to collapse that may be dangerous, just as in cases of alcoholism, where the complete suppression of liquor will often lead to attacks of delirium tremens. This rule is not, however, absolute, nor general in its application; for instance, in the case of tobacco, it is best to break off at once and not practise diminution day by day. But with morphia it is better to go slowly and only reduce the dose a few milligrammes daily. If, as often happens, the morphomaniac is used to his four, six, or more injections daily, it is best to continue them, but reduce the amount each time, rather than to reduce the number of the injections. The question arises here, Ought we to do this with the consent of the patient or without it? Here he at once would say that it is not possible to cure them against their wish. They must desire it, and strongly, too, if we hope for a cure. However, if possible, it is well to make the diminution more than the patient thinks it is. This must be done also in a regulated way. To obtain success, it is indispensable that the doctor have complete control of the administration of the drug. He must make the solution of morphine and himself give the injections. In order to make sure that all the care of the physician does not come to naught, there must be a secret watch kept over the patient so that he will not procure morphine and inject it himself. Some of them have been known to forge the handwriting of the doctor to a prescription.

Great care must be taken to find out the reason why the patient originally took to the morphine, so that proper treatment may be directed to suppress the cause as well as the baneful drug. This will also lead to a judgment as to which one of the injections it would be well to suppress first. For instance, in persons who suffer from gastralgia, continue the one just before a meal up to the last. In others who got the bad habit from the injection given for insomnia, keep up the evening dose. It is also a good plan to retain the morning dose up to towards the last.

This much said on the manner of stopping the morphine, what shall take its place while

attempting a cure? Alcohol takes one of the first places. Give good wine, even cognac, at the risk of their taking a new bad habit. It is one that can be stopped better than morphine. There are moments during the cure of morphomania when the patient is in a complete state of prostration, when he will not leave his arm-chair for days at a time. Then use alcohol; and for the same indication give coffee, caffeine, acetate of ammonia, even injections of ether, though their effects are but temporary. Ether is especially useful if there is any danger of collapse.

For sedatives, the bromides may be employed in the presence of hysteria or any general nervous symptom. For insomnia, chloral acts well. Cocaine also has been tried lately; it may be used whenever there is pain in any part of the mucous membranes. For instance, cocaine is certainly indicated by its analgesic properties over the mucous lining of the stomach in all cases of painful dyspepsias. But what cocaine does for the stomach is only what it can do for all the accessible mucous linings, such as vaginal, urethral, etc. Its use for the eye is already classic. In fact, what opium does for the interior, cocaine does for the exterior mucous membranes. Water in all its forms is a powerful aid in the treatment of our morphia-ridden patients, used as douches. Lotions with cold water are not only stimulants but real tonics to the nervous system,—that is to say, water will combat not only the actual depression, but it will go farther and act on the nervous system, and will even effect a radical cure, as it does in real hysteria, where hydropathy is the principal, often the only, treatment. On the other hand, warm baths sometimes act well in these patients when kept up a long time. He recommended also prolonged baths of static electricity. The public have retained the old idea that electrical treatment was one of shocks and efforts to contract the muscles, but the practitioner of these days knows how to use it as a means of sedation as well. Prof. Grasset closed by recommending that the doctor should never place in the hands of patients the hypodermic syringe, and, when giving a prescription for morphine, to add on it the number of times that the druggist should fill it, so as to prevent the rapid formation of the morphia habit.

Dr. Brown-Séquard, speaking at a late meeting of the Société de Biologie, said that there existed a manifest inhibition in certain phenomena in epilepsy from the beginning of the attack. In some cases there was a complete abolition of reflex movements; in others the reverse takes place, and the reflex faculty is so much exaggerated that if one touches the paralyzed member it is sufficient to produce an attack, or to increase it if it has already taken place. A motion of the part is often quite enough to start them

off; even a simple draught of air on the part has been known to have the same effect. In both cases, when the reflex faculty was lost and those in which it is increased, it is the spinal cord that is affected; but he would not say that the cord was the only seat or origin of the trouble, but that the cord is always influenced by the brain. It is true that in certain animals when we produce a lesion on the cord in the cervical region we produce an attack of epilepsy; but that does not prove, even in the animals experimented upon, that the cord is the exclusive seat of the disease; for a lesion of the pons Varolii will also produce an attack. There is one difference in these two cases: when the lesion is in the cord the epileptic zone is in the corresponding side, whereas it is on the opposite side when the lesion is in the pons; but, wherever the seat of the epilepsy may be, the cord is always influenced.

He also detailed another interesting experiment in a dog which had a traumatic lesion of the cerebellum. He had observed spinal epilepsy, in which traction, or malaxation, or galvanization of certain muscles,—any peripheral excitation,—would provoke an attack. This case of spinal epilepsy following a lesion of the cerebellum is, he thought, the only one known. We know that there exist in man, following lesions in the brain, zones which, when excited, give rise to convulsive attacks, or exaggerate such attacks when they already exist. All these facts demonstrate that the nervous centres can determine an inhibition or an exaggeration of the functions of the cord. Prof. Brown-Séquard called attention to the practical point to be derived from these facts, which was the importance of finding the peripheral points which can be excited in epileptics, and to direct the treatment there by counter-irritation with the thermo-cautery or other revulsives.

A great effort has been made for some time back against the foreign students in Paris, in order to prevent them from getting the honors of the examinations, and from taking the places in the hospitals. At a meeting of the Municipal Council on March 6 it was voted, however, to allow the foreign students to try for the posts of interne and externe as before. The qualification of French citizenship will only be asked for the hospital doctors and prosectors.

Some experiments have recently been made by Drs. Gréhant and Quinquand to determine the amount of pressure needed to cause rupture of the blood-vessels. Operating the animals with a compressed-air machine, they find that the pressure necessary to rupture the arteries is very much greater than that which exists normally in those vessels. The pressure of blood in the carotid artery of a dog being about fifteen millime-

tres, in one case it was ruptured at seven atmospheres, in another at eleven atmospheres, (that is to say, under a pressure of five millimetres, thirty-two, and eight millimetres, thirty-six of mercury), or, in other words, a pressure of *thirty-five to fifty-five times as much as the normal*. The jugular vein was ruptured at six atmospheres, and in another trial at nine.

Dr. Langlebert, speaking of the prophylaxis of gonorrhœa, etc., said that *virtus millia scula*; however, he strongly recommended the routine use of the following wash:

R Alcohol, 30 grammes;

Sapo mollis, 10 grammes.

Dissolve the soap in the alcohol, filter, and add essence of citron rectified, 5 grammes.

Prof. Fournier, in treatment of psoriasis, uses a formula in which he combines chloroform and gutta-percha with the remedy, as it forms a pellicle on the skin and keeps the medicine applied to the part, as follows:

R Chloroform, 8 parts;

Gutta-percha, 1 part;

Chrysophanic acid, 1 part.

Dr. Martineau, of the Lourcine Hospital for Women, has recently been making use of the thermo-cautery and galvano-cautery in his treatment of venereal diseases. For ordinary inflammations of the vagina, gonorrhœal mostly (what they call here *vaginile*), he uses the galvano-cautery over the whole surface with excellent effects. In suppurating buboes also he applies the thermo-cautery. This forms an ulcer that heals afterwards very rapidly.

Prof. Verneuil has been attacked again on his favorite theory of *hereditary paludism*, and gives his opponents the following nuts to crack. "Without speaking of the proved facts of intermittent attacks in new-born children of parents who were suffering with malaria, cases that have occurred so close to birth that it is impossible to deny that they came from the parent and not from any external influence, as there had not been time for it to operate,—without, I say, taking this sort of cases into account, allow me to ask the following questions:

"How can we deny that there is a congenital intoxication when we have anatomical proofs of it?

"If the children so intoxicated survive, how can we affirm that the dyscrasia dating from their intra-uterine life will disappear completely and spontaneously?

"If this dyscrasia persists, no matter how latent it may be, how can we affirm that it will not some day, under the influence of some cause or other, show itself again with all its specific force?"

The anatomical proof he speaks of is a characteristic hypertrophy of the spleen which

has been found in children stillborn of malarial parents.

Great efforts have been made to contradict this theory, but so far without success. The convincing arguments of Dr. Verneuil have already won over to him most of his opponents; so much so that Dr. Percholia writes him to say that, while waiting for further evidence, he will believe with him in the possibility of hereditary paludism.

Cocaine mixture to calm cough and vomiting in chronic pharyngitis:

R Cocaine hydrochlorate, 0.1 gramme;
Glycerin, 15 grammes;
Distilled water, 35 grammes;
Acidi carbolici, 0.01 gramme. M.

Sig.—Paint on the part morning and evening.—*Dr. Proust.*

It will perhaps be interesting to your readers, in conclusion, if we give the status of foreign physicians in Paris, and also give some account of the new *régime* of studies and examinations that has come into force this year. First, in regard to the status of foreign doctors, none will be allowed to practise in France, now, unless they *pass all the examinations* of the new *régime*. Before, it was possible to obtain permission to practise; indeed, almost all the physicians who practise in Paris in the several colonies of the English and Americans obtained permission to practise without the slightest examination; but this power was so much abused that a great agitation arose against it, and the new law is now strictly in force. All are now asked to pass all the examinations if they wish to practise with the title of doctor. There is a secondary degree to be had, but the studies are almost as hard and the examination is nearly as long. This is called *médecin de santé*, but it only carries the right to practise in a certain district, and if any important operation is to be performed the *médecin de santé* is compelled to call in a doctor. Some of the English doctors here hold this degree. All of the Americans who practise here, with one exception, have obtained a license to practise through influence with the political head of the Department of Public Instruction; but, as before stated, this is now refused, and all who now wish to practise in France, no matter what previous degree they may have, will be compelled to pass all the examinations. Those who hold proper diplomas will get a credit of time, but not of examinations; that is, they can pay all the fees and proceed to examinations at once, and not take four years' time as the French new students do.

Any failure to pass an examination will cause a candidate to be put back three months, and, *en passant*, the professors do not hesitate to refer any one to his studies for three months who fails to answer well the questions

put to him. The examinations are public, but the audience consists mostly of some dozen or more of students who are coming up for the same fate and come to see the run of the questions. The examiners are a jury of three professors, or two assistant professors and a head one. They wear gowns like Episcopal ministers and high hats like Greek priests, except that the gowns and hats are made of red as well as black silk. The head professor has more red than the assistants. The candidates are taken in blocks of six at a time, and the examination lasts about two hours in all, each professor taking his turn at the unhappy student. The result of the examination is declared at once after the examination. Three marks are given: good, satisfactory, and passable. Those getting lower marks are adjourned. The following are the examinations:

First Examination (Botany, Zoology, Physics, and Chemistry).—The studies for this first examination are complete. There are laboratories where the student dissects the fresh plants and see the dry ones, and also where he handles the different physical instruments, such as microscopes, electrical batteries, etc. Then the chemical work-rooms are very good. Each student has his bench, where he works for several hours. This preparation is needed, as at the examination the student is handed the various plants to give their names and uses. He is also handed one or more chemical substances to recognize and give the properties of.

Second Examination (Anatomy and Physiology).—This examination is divided into two parts. In the first one the student is taken to the dissecting-room, and there he finds his name on the subject and the part given he has to dissect. He is given four hours to do the dissection. He then comes before the jury for examination on anatomy and histology. The second part of this examination, on physiology, is taken later, usually three months later. It is oral only.

Third Examination.—Also in two parts. First, surgery, in which the student is required to perform any surgical operation the professor tells him to. This is done on the cadaver: it is usually an amputation. The oral part is on medical subjects and obstetrics.

Fourth Examination (Hygiene, Legal Medicine, Therapeutics, and Materia Medica, with Pharmacology).—During this examination the student is required to write a medico-legal report of a case given by the professor, mostly suicide or infanticide.

Fifth Examination.—This is also divided into two parts, and consists of clinical examinations in the hospital. The students must give practical proofs on patients that they understand diagnosis. They are also handed a specimen of some tumor or other pathological subject and requested to state what it is, etc.

It winds up then with the presentation of a thesis, which is to be printed in French and one hundred copies presented to the faculty. This thesis is then to be sustained by the candidate before a jury of the faculty, who will discuss its points with him. If all is satisfactory, the minister will then accord a diploma. The cost of all the fees is stated at eight hundred and eighty francs (about one hundred and seventy-five dollars), but this may be increased by the fact that the student who is put back loses the examination, or rather has to pay over again. However, in round terms, two hundred dollars is all the cost, which includes all the laboratory and dissections, also the library-fees and the printing of the final thesis. Your correspondent will be glad to give any further information needed.

THOMAS LINN.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

A STATED meeting was held March 23, 1885, the President, DANIEL LEWIS, M.D., in the chair.

Dr. W. GILL WYLIE read a paper entitled

A SIMPLE AND EFFICIENT SURGICAL OPERATION FOR LACERATED PERINEUM.

The operation referred to was the secondary, not the primary one, and was for lacerations not extending through the sphincter ani. Some preliminary remarks were made upon the manner in which the pelvic organs descend after rupture of the perineum, the author's view being that the commencement of the change in position of those organs, producing rectocele, etc., was due to straining, as at stool, etc., and not to the pressure brought to bear by the abdominal contents during the upright position of the patient. On this point he accepted Hart's views, with some slight modifications. Cases had come under his observation in which the perineum had been torn entirely through without there being a change in the position of the uterus as the result. He thought the perineum was not, as Dr. Emmet claimed, intended to sustain the rectum, but to enable the rectum and the anus to perform their function.

The author considered the perineum as the movable point of attachment for the transversus perinei, the bulbo-cavernosus, the sphincter ani and levator ani muscles, and some of the pelvic fascia; also in general for the anus, rectum, and posterior wall of the vagina. It is composed chiefly of firm connective tissue, such as forms the ligaments of muscles in other parts of the body. He described it further as consisting of two parts: the superficial and the deep. The external or superficial is composed of the transversus

perinei, the bulbo-cavernosus, the sphincter ani, and the perineal fascia; the internal, of the levator ani, some fibres of the internal sphincter ani, and of the pelvic fascia, constituting along with the levator ani a firm ligamentous band in front of the rectum, where it joined the anus. This ligamentous band not only prevented fecal matter being forced out through the vagina, but sustained the anterior wall of the vagina and the bladder during forcible intra-abdominal pressure, as at stool.

Dr. Wylie's operation consisted in denuding the mucous membrane which once formed the ostium vaginæ only as high up as the caruncles and an inch or an inch and a half into the vagina laterally, including the angles of the rectocele, until firm white tissue was reached, then up over the rectocele on to the other side, but only removing mucous membrane and avoiding injury of the muscular structure of the vagina. The denuded surface when separated, instead of being of crescent or clover-leaf shape, was nearly in the form of a square. The sutures were put into the superficial perineum in the same way as in the old operation. The last three or four entered from within the vagina, passed from the right side, dipping deep laterally, completely under the angle of the denuded surface over the rectocele, to its centre; then the needle was re-entered at the same place and carried completely under the angle of denuded tissue on the opposite side, and brought out on the side of the vagina opposite the point of entrance. The last suture was passed in the same way and made to include the edges of the undenuded vagina. After all the sutures were passed, usually six or eight, he thoroughly stretched the sphincter ani, which relieved tension in that direction, lessening the risk of troublesome hemorrhoids and fissures. When the sutures were twisted, the external perineum was drawn upwards and inwards, the most prominent part being that next the rectum.

Before the operation, when necessary, pledgets of cotton, containing glycerin and alum or other applications, surrounded the cervix. Bichloride of mercury solution was employed during and after the operation, and twenty grains of iodoform powder dusted over the sutures, to be renewed after urination. The catheter was not used. The bowel moved once a day by mild laxative. In case of pain, morphine was given. Except when the vagina was extensively lacerated, he seldom employed other than silver-wire sutures. In old women, where the anterior wall of the vagina was excessively relaxed, the denudation was extended higher up on the sides and posteriorly, almost occluding the vagina. He preferred a round sewing-needle. The stitches were removed about the tenth day, and the patient allowed to sit up four or five days later.

Dr. J. B. HUNTER opened the discussion, and said that he had little to criticise in Dr. Wylie's operation, which was essentially the one which he had performed for some years. There were many ways of repairing the lacerated perineum, a good proof that we had not yet discovered the perfect way. It was also proof that good results could be obtained by different methods of operating. The first method which he had witnessed was that in which the denudation took the form of a horseshoe, and was objectionable because it formed a superficial perineum. He thought Dr. Emmet made a mistake when he spoke of his new operation as simply uniting the posterior walls of the vagina. In Dr. Hunter's opinion the perineum has depth as well as length and breadth, and Dr. Emmet's operation was valuable because it completely restored the perineal body. It often occurred that the physician was unaware, while supporting the perineum during labor, that laceration of the body of that tissue had already taken place, although it might not be apparent to the superficial view. Directing his remarks to lacerations not extending through the sphincter ani, he had for some years avoided denuding other surface than mucous membrane, and he introduced the sutures altogether from above downward. In that respect his manner of operating differed from Dr. Wylie's. He had employed almost every variety of suture and found that good results could be obtained from all, but he preferred catgut to silver wire, as it was less rigid. Too great tension should be avoided, but care should be taken to properly coaptate the denuded surfaces. One of the advantages of his method of operating was that the patient had no after-pain and did not require morphine. He had often noticed after his operations that patients who had for years worn a pessary were enabled to go without it.

Dr. P. F. MUNDÉ was surprised to find, on his return from Europe a number of years ago, that the operation for repair of the perineum not extending into the rectum was being very successfully performed in America, while in Europe success had been obtained only for the more extensive lesion. The reason was that here the sutures were passed more deeply, while in Europe only a superficial perineum was formed. When he witnessed Dr. Emmet's new operation it struck him that simply narrowing the posterior wall of the vagina would not unite the perineum below, and thus there would be left a gaping vulva, and in one operation done by himself he found this objection to be valid. He thought the old clover-leaf form of denudation was very similar to that practised by Dr. Wylie, as it would require only a stretching of the denuded surface to cause it to assume the nearly straight lines pictured by the author of the paper. He mentioned the much better results obtained in private

than in hospital practice, and the fact—aluded to by Dr. Hunter—that the patient was often relieved of the necessity of wearing a pessary after the operation.

Dr. HUNTER corrected a misapprehension on the part of Dr. Mundé, who supposed Dr. Emmet's operation failed to restore the perineum to its normal condition. That was, in Dr. Hunter's opinion, the great advantage of the operation.

Dr. B. F. DAWSON said he also had his peculiar way of repairing the lacerated perineum. The duty of the gynæcologist was to restore the ruptured perineum, and not to make an artificial one. It was a mistake to denude a surface three inches in extent when the rupture extended only two inches or less. After denuding the original tear, the simpler the manner in which the surfaces were united the better. Avoid using many sutures, he said, for they corrugated the surface, strangulated the vessels, caused abscess and much pain. He was able usually with two sutures to perfectly coaptate the denuded surfaces, avoiding twisting the wires too tightly, which would strangulate the tissues. Dr. Emmet's recent operation was perfect, except that it was much more difficult to perform than the one which he adopted. He never kept his patients abed longer than the eighth day, and they walked about on the tenth. There was no pain, and he had had no failure.

Dr. CASTLE, referring to the effect of intra-abdominal pressure, thought excessive flatus should be avoided in patients who had had rupture of the perineum.

Dr. A. S. HUNTER spoke of the number of abscesses which often formed after the old method for repairing the perineum, and of the great pain which the patient suffered. These symptoms he had observed to be absent in Dr. Wylie's cases.

Dr. CRANMER was astonished that physicians in the city met with so many cases of rupture of the perineum. He had never yet seen the lesion.

Dr. J. H. BOLDT bore testimony to the advantages of Dr. Dawson's method of operating, especially of the feature relating to the small number of sutures employed.

Dr. WYLIE would not object to the use of catgut where the tension was slight. With regard to the form which the clover-leaf would assume if the tissues were stretched, he said the change of form would not do away with the fact that the tissues in the angles remained undenuded. He doubted whether Dr. Dawson's method would give permanently good results, especially in marked cases of rupture. He thought the method suggested by Dr. Hunter would not bring up the everted ostium vaginæ quite as well as his own method. He laid stress upon the importance of stretching the sphincter ani, and upon the effect of straining at stool in producing rectocele.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held March 19, 1885, A. JACOBI, M.D., President, in the chair.

Prof. MERRIAM, of Columbia College, read a paper entitled

THE TREATMENT OF PATIENTS IN THE TEMPLE OF ÆSCULAPIUS.

In the first part of the paper, and interspersed here and there throughout, the author referred to some facts regarding ancient medicine which had already passed into history. The new facts referred to the revelations of excavations made in the temple of Æsculapius at Athens, Epidaurus, and Cos. Several tablets had been found recently containing inscriptions which had not yet entered medical literature. Prof. Merriam translated a number of these inscriptions, and also referred to certain other objects unearthed in these ancient temples. They all related to the cure of diseases or abnormal conditions in a miraculous manner by the Deity, or through his agents, the serpent, the dog, etc. This belief in the miraculous cure of disease among the ancients is also common among the people of the same countries to-day, the only difference being that relics and shrines are substituted for the temple of Æsculapius.

Dr. JOHN C. PETERS made some remarks, referring to the studies of ancient medicine by Dr. Watson and also by himself, and said that he thought Hippocrates had been shown to be free from the trickery and deception practised in the temple of Æsculapius.

STATED MEETING, APRIL 2, 1885.

The President, A. JACOBI, M.D., in the chair.

ANTIPYRIN.

Dr. W. H. DRAPER read the paper, in which he said that it was a striking fact that, while the progress of science has added little to our knowledge of the essential nature of fever, it continues from time to time to enlarge our resources for its control. One of the latest contributions to the means of subduing the heat as well as the other symptoms of fever is antipyrin. This substance has been brought to the notice of the medical profession within the last year, and it has already been the subject of extensive physiological and clinical experiment. The author quoted the results of experiments by different observers upon animals and clinical observations upon man. He then said that his own experience with antipyrin was obtained during a recent term of service in the New York Hospital, and mainly in the treatment of typhoid fever. His predecessor, Dr. Peabody, had already been using it during his term of service in October last, and had been much impressed with the cer-

tainty of its antipyretic action, and especially with its tranquillizing influence upon the nervous symptoms of fever.

Dr. Draper's observations were made in twenty cases of typhoid fever, and a tabular account of these cases accompanied the paper. The majority of the cases were severe in type, had numerous complications, and several of them had continuously-high temperature. Of the twenty cases, seventeen were males. Three were aged between 15 and 20 years; fourteen between 20 and 30 years; three between 30 and 35 years. There was among the patients using the drug a mortality of twenty-five per cent. Of the five who died the ages were 18, 22, 25, 28, and 30 years, respectively. One died on the fifteenth day of the disease, one on the twenty-fifth, one on the thirty-seventh, one on the fifty-fifth, and in one the duration of the disease could not be ascertained. The highest temperature recorded in the fatal cases was 107.6° F., on the twenty-fourth day of the disease. In none of the other four fatal cases did the temperature quite reach 106°. The average temperature in these five cases was 101.1°. In some of the cases the comparative effect of the cold bath and antipyrin in the reduction of the temperature was shown, the difference in the degree of diminution of the temperature being in favor of the drug by from one to two and more degrees.

Of the cases in which recovery took place, in one the temperature ranged from 103° to 106.6°. The average temperature varied in the different cases from 101.6° to 103.6°. Among the complications were vomiting, diarrhoea, constipation, hemorrhage from the bowel, sweating, nervous manifestations, semi-coma, chills and sweats, etc.

The antipyretic treatment in all of the cases consisted either in the external application of cold by sponges or baths, or in the administration of antipyrin. The method of administering the drug was to give seventy-five grains in three doses at intervals of an hour, the first two doses containing thirty grains each, and the third fifteen grains. The almost uniform effect of the medicine was to reduce the temperature from 104° or 105° to 100°, or even to 98.5°, the fall being gradual for three or four hours. The rise which took place on the discontinuance of the drug was unattended by chill. It was rarely necessary to use more than one hundred and fifty grains in the twenty-four hours in order to maintain the average temperature from two to three degrees below what might reasonably have been expected without the use of the antipyrin. The pulse followed proximately the temperature-curve, and the general beneficial effect upon the nervous system was such as was usually observed in antipyresis. In all the cases the antipyrin depressed the temperature more or less. In one case it failed to lower the temperature when given by the stomach, but succeeded when given hypodermically.

In another case it occasionally failed to lower the temperature.

The effect upon the pulse was usually to diminish its frequency and to increase its strength. No marked depression of the heart's action was noticed. One of the most marked and uniform effects observed was the cleaning and moistening of the tongue. Sweating, more or less profuse, was caused in six cases. Vomiting was provoked by the drug occasionally in six cases. The nervous symptoms, as a rule, were favorably affected. In only one instance did it appear to exert any influence to depress the spirits. It usually quieted delirium, cleared the intellect, and diminished restlessness.

In six cases the drug caused an erythematous flush resembling measles. In one case a macular eruption appeared. The eruptions caused but little irritation, and faded within a few days, even though the remedy were not discontinued. The urine presented no other changes than those observed in cases in which the disease was complicated by parenchymatous nephritis.

Dr. Draper had used antipyrin also in pneumonia, scarlet fever, intermittent fever, and tuberculosis, and it had invariably reduced the temperature. While it did not cut short the disease, yet in reducing the temperature it contributed to the well-being of the patient.

It would seem idle to speculate as to how antipyrin reduced the temperature, but it might be assumed that it was not an antipyretic in the sense that quinine and the salicylates were antipyretics. The latter neutralized the cause of the fever, while the former smothered the fever but did not extinguish it. Whether the antipyretic action was the result of a chemical effect on the process of oxidation, or whether it was the result of an inhibitory influence upon nerve-centres, was beyond our present knowledge. It seemed to Dr. Draper that the nervous centres were primarily affected; but, as already stated, this was merely speculation.

Conclusions: 1. Antipyrin is an *efficient* means of reducing the temperature. 2. It is apparently a *safe* means of reducing the temperature, if prudently administered and carefully watched. 3. That while it does not, so far as experience has demonstrated, modify or abort the disease, it contributes to the well-being of the patient by reducing the temperature. 4. When carefully administered it rarely produces unpleasant symptoms, or such as would counterbalance its benefits by reducing the temperature. 5. Future experience will probably enable us to more definitely formulate the conditions in which antipyrin would be especially useful, and thus constitute it a precious contribution to the art of healing.

DISCUSSION.

Dr. LEONARD WEBER had employed anti-

pyrin in fifteen cases, including cases of pneumonia, bronchitis, scarlet fever, etc. In not a single one of the fifteen cases was he disappointed in his desire to reduce the temperature. The first case was one of double pneumonia in a child, of severe type. The drug reduced the temperature from two to three degrees when administered either by the mouth or rectum. Resolution began to take place at the close of the fourth day of the disease. In another case he gave smaller doses more frequently repeated, and had no difficulty in keeping the temperature down to 101° or 102° . He noticed a little nausea when the drug was administered in this manner. He thought it well to begin with relatively small doses, say half a gramme by the mouth or rectum in children and a gramme in adults, before proceeding to give larger doses, as was first proposed. The remedy acted quickly, and we would know within a short time after the administration of the first dose how the patient would bear it, and thus avoid producing too great and rapid lowering of the temperature.

Dr. H. J. BOLDT had given as much as four grammes at a dose, and had found that in this large quantity antipyrin caused increased frequency with diminished strength in the pulse, prostration, and symptoms seen in carbolic-acid poisoning. The effects of the drug were noticeable within from three-quarters of an hour to an hour, and the influence remained only three or four hours. He usually began with from twenty to thirty grains, and increased the dose according to the indications. In two cases of puerperal septicæmia the drug had no effect. A negative result was also observed in another case.

Dr. F. P. KINNICUTT had obtained almost exactly similar results from the use of antipyrin to those described by the author of the paper. He had employed it in facial erysipelas, rheumatism, pneumonia, pleurisy, scarlet fever, phthisis, etc. The production of gastric disturbance had been exceptional in his experience. In only one or two instances had he seen any chill. He had been pleased with its action in controlling the afternoon temperature of phthisis, but it had been said to be contraindicated when there was sweating. Regarding sub-normal temperature without other symptoms of collapse, he had noticed it in a single case.

Dr. G. F. PEABODY said, with regard to the variability in the effect of the drug, that doubtless it was sometimes adulterated. When he first began its use it never failed to reduce the temperature. In later cases it had failed in a number of instances, and this he thought was due to adulteration. He would emphasize the fact that by employing this remedy we at all events did our patients no harm. Even though we fail to reduce the temperature, we do not diminish the force of the heart's action. It was also a matter of

some interest to know that if the drug occasionally produces vomiting, it can be administered subcutaneously without any injurious local effect. Dr. Peabody had employed antipyrin in almost all febrile affections, and only lately had he failed to reduce the temperature. He mentioned the case of a fleshy girl, suffering from typhoid fever, in whom the cold bath failed entirely to reduce the internal temperature, while antipyrin caused the vaginal temperature to fall even below normal.

Dr. MALCOLM MCLEAN had succeeded in reducing the temperature of a case of chronic pyæmia following puerperal fever, all other antipyretic remedies having completely failed.

The discussion was closed by Dr. DRAPER, who said that in antipyrin we had a very efficient means of treating a symptom.

AN ORIGINAL OPERATION FOR RUPTURED PERINEUM.

Dr. A. C. POST then read a brief paper on this subject, and said that the operation had not been performed a sufficient number of times to entitle it to be regarded as established, but in the three cases in which he had performed it the result had been so satisfactory as to lead him to recommend it to the profession as worthy of trial. The operation was simpler in execution than the one ordinarily performed, and he thought it secured a more solid perineal body, and it also had the advantage that there was no loss of substance in its performance, and consequently it might be easily repeated if for any reason the first operation should fail.

An incision was made on each side of the vagina to the depth of fifteen or twenty millimetres. The incisions met in front in a manner to divide the parts into an upper and a lower segment. The upper segments were turned up and formed the floor of the vagina, and were secured in position by a row of cat-gut sutures passed, not through the skin, but through the subcutaneous cellular tissue so as to turn the edges of the skin upward to form a ridge on the floor of the vagina. A second row of sutures, of silver wire, were passed from either side through the deepest part of the incisions, where the upper and the lower segments met. The ends of these sutures were passed through glass beads and perforated shot, and after the flaps were brought into close contact the shot were compressed. The inferior edges were united by fine sutures, and an iodoform dressing was then applied. The integument on the inner side of the thighs should be protected from pressure by the shot and beads. The patient should be allowed to urinate without the use of the catheter, and the parts be washed afterwards with a solution of mercuric bichloride. The sutures might be removed at the end of ten days or a fortnight.

The paper was discussed by Dr. FANNING and Dr. DAWSON.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held March 25, 1885, JOHN A. WYETH, M.D., President, in the chair.

DIPHTHERITIC CROUP.

Dr. H. J. BOLDT presented the trachea and lungs removed from the body of a child which died sixty-three hours after tracheotomy for diphtheritic croup. Dr. Boldt said that the specimens confirmed the views of some of the members of the Society that, as a rule, in death from asphyxia the lungs are anæmic rather than congested.

OVARIAN TUMOR TWISTED FIVE TIMES UPON ITS PEDICLE.

Dr. J. B. HUNTER presented an ovarian tumor removed from a patient in February, after having developed rapidly and given rise to symptoms of peritonitis. The operation was done in advance of the time appointed, because of the symptoms present. It was found on cutting down upon the tumor that the veins in its walls were largely distended, and the least prick of the surface gave rise to copious hemorrhage. The tumor was twisted five times upon its pedicle, causing strangulation of the vessels. Hemorrhage had taken place between the separated walls. Soon after the operation the temperature and pulse-rate became normal, and the patient made an uninterrupted recovery. Had the operation been delayed two or three days, the prognosis would have been much graver.

OVARIAN ADENO-CYSTOMA, WITH SPONTANEOUS RUPTURE OF ONE OF THE CYSTS.

Dr. PRUDDEN presented the specimen, which was removed from a woman 28 years of age, who had first noticed a tumor seventeen months before, shortly after her last confinement. Symptoms of peritonitis developing, laparotomy was performed and the tumor removed, but the patient died on the fifth day after the operation. One cyst of the adeno-cystoma had ruptured and given rise to the symptoms.

Dr. HUNTER said that he had removed a tumor, almost the counterpart of the one presented by Dr. Prudden, on Wednesday last, the patient being 50 years of age and having noticed the tumor only nine months before. The growth was an adeno-sarcoma.

PECULIAR-SHAPED HÆMATOIDIN CRYSTALS.

Dr. WALDSTEIN presented microscopic sections illustrating rod-like hæmatoidin crystals, collected in asterisks, found in a tumor of the testicle. There was no other evidence of hemorrhage into the tumor. This was the only specimen containing this form of crystal which he had seen, and he believed it to be unique. It has been said that the size of the crystal depends upon the slowness of crystallization and the clearness of the mother-liquid.

Dr. JANEWAY said that he had seen similar crystals in urine, but they occur very rarely. They have also been illustrated by some German writers.

TUBERCULAR LARYNGITIS.

Dr. VAN SANTVOORD presented a specimen obtained from a hospital patient with an incomplete history. Besides the tubercles in the larynx, there were also tubercular deposits in the lungs, liver, and intestines.

ILIO-PSOAS ABSCESS; DISCHARGE THROUGH THE DUODENUM.

Dr. E. G. JANEWAY presented the specimen, which was removed from the body of a woman 45 years of age, who was admitted to the hospital after having been sick for five weeks, with pain in the right lumbar region, extending down the thigh, and coming on suddenly. There was flexion of the thigh upon the pelvis and of the leg upon the thigh. There was little or no fever. A distinct swelling could not be detected, but, as there was a sensation of deep-seated infiltration in the iliac fossa, the hypodermic needle was introduced twice, but no pus was obtained. There was diarrhoea, but no pus was detected in the stools by naked-eye inspection. The stools were colored from bismuth. At the autopsy a small ulcer was found opening into the duodenum, communicating with a deep abscess with thick walls in the iliac region. There was thrombosis of the iliac arteries.

PERFORATING ULCER OF THE ŒSOPHAGUS.

Dr. JANEWAY also exhibited the Œsophagus of a child who had died rather suddenly, having suffered from infantile paralysis, diarrhoea, bronchitis, and pericarditis. A round, perforating ulcer was found at autopsy, about half an inch across, situated in the anterior lateral wall about an inch from the stomach. There were evidences that it was ante-mortem.

TRACHEAL STENOSIS; SUDDEN DEATH.

Dr. JANEWAY also presented the trachea of a child, in which there was cheesy degeneration of the glands, causing partial stenosis; and one of the glands having ruptured into the trachea, produced complete obstruction and sudden death.

PERITYPHLITIC ABSCESS.

Dr. PEABODY presented the cæcum and the vermiform appendix removed from the body of a child 12 years of age, who was brought to the New York Hospital a week ago, with a history of having been in good health until ten days previously, when she was taken with pain in the belly and obstinate diarrhoea without dysenteric symptoms. The temperature ranged between 103° and 105°, and there were frequent irregular chills. There was marked distention of the entire abdomen, with pain and tenderness and dulness in the right iliac

region, following the course of the ascending and transverse colon. The dulness over the transverse colon could not be distinguished from the liver-dulness. Inasmuch as a free purge had brought away copious fecal matter, in the presence of the symptoms mentioned it was thought that there was suppuration, probably in the region of the cæcum, without invasion of the peritoneum. A surgeon who saw the patient made two punctures with a long exploring-needle, but obtained no pus. It was then thought that laparotomy offered the only chance of recovery; but the patient's condition was so low that the operation was not performed, and she died two hours after the time appointed for the operation. At the autopsy an abscess-cavity was found beneath the cæcum, not communicating with the peritoneal cavity, and containing foul pus. The vermiform appendix was friable, but not yet ulcerated. It contained a mass of hardened feces three-quarters of an inch long and of the thickness of the prong of an ordinary dinner-fork. Quite a large clot marked the places of puncture. There was a caseous centre about the size of the tip of the finger in the right lung, and in the immediate neighborhood were a number of miliary tubercles. Elsewhere the lungs were normal. The dulness in the region of the transverse colon was due to enlargement of the liver, and this organ contained a number of caseous foci. Examination revealed no evidence of tubercle in the abscess at the cæcum.

ATHEROMATOUS DEGENERATION OF THE CORONARY ARTERIES; MYOCARDITIS; SUDDEN DEATH.

Dr. PEABODY presented a heart removed from the body of a man 60 years of age, who had lived an active life of dissipation, and who died suddenly at the card-table while in apparent health. The autopsy revealed dilatation of the left ventricle, atheroma of the aortic cusps, and marked atheromatous degeneration of both coronary arteries with narrowing of their calibre. There was fibrous interstitial myocarditis and diffuse nephritis.

Dr. JANEWAY mentioned the case of a woman who died suddenly while vomiting, and at the autopsy there was found endarteritis surrounding both coronary arteries, and atheromatous degeneration of the aorta.

Dr. PRUDEN asked Dr. Peabody whether he thought spasmodic closure of the coronary arteries was the cause of death in his case.

Dr. PEABODY thought that could hardly have been the cause of death, because the walls of the arteries were too unyielding to contract spasmodically.

Dr. VAN SANTVOORD remarked that in this connection the experiments of Cohnheim upon the cardiac circulation were worthy of consideration. He found that on occluding the coronary arteries after a certain amount of anæmia had taken place there was a sud-

den transition from a well-working heart to sudden paralysis of the cardiac muscle.

Dr. WALDSTEIN recalled the case of a man who suffered from repeated attacks of angina pectoris for five or more years. At the autopsy very extensive patches of myocarditis and enormous foci of infarction were found. Both coronary arteries were the seat of thrombosis. All the arteries, so far as examined, were the seat of endarteritis, and the surrounding muscular fibres showed various degrees of fibrous myocarditis. The patient's death was not sudden. Dr. Waldstein would attach more importance to myocarditis in Dr. Peabody's specimen than to atheroma of the coronary arteries.

Dr. PEABODY thought interference with the nutrition of the heart was the primary cause of degeneration of the muscular wall, that this degeneration was the cause of death, and that the change in the coronary arteries was only the indirect cause of death.

Dr. PRUDDEN said it should be borne in mind that in Cohnheim's experiments there was acute occlusion of the blood-supply to the healthy heart. In a considerable number of cases we must take into account two conditions, weakened myocardium and perhaps sudden closure of the diseased arteries.

Dr. PEABODY remarked, concerning the appearance of the heart-wall, that it was often apparently normal to the naked eye, while microscopical examination revealed extensive change.

The PRESIDENT referred to the possible influence of insufficient blood-supply to the central nerve-ganglia of the heart in cases of sudden death.

REVIEWS AND BOOK NOTICES.

DISEASES OF THE SPINAL CORD. By BYRON BRAMWELL, M.D., F.R.C.P.(Edin.), Lecturer on the Principles and Practice of Medicine and on Medical Diagnosis in the Extra-Academical School of Medicine, Edinburgh, etc. With One Hundred and Eighty-Three Illustrations. Second Edition. Edinburgh, Young J. Pentland, 1884. Pp. 359.

While much has been recently written in monographs and in contributions to journals on the spinal cord and its diseases, a real need has existed for a concise and well-arranged text-book on this subject. This has now been supplied by the excellent work of Dr. Bramwell. Of the one hundred and eighty-three illustrations one-third are original, and many of them represent the results of careful and thorough microscopic work in the pathology of spinal diseases. The method of case-taking suggested is so useful and sensible that we would be tempted to transcribe it in full if space permitted. The book is es-

pecially valuable for the definite and explicit instructions as to the methods of investigating cases. One hundred pages are devoted to this portion of the subject.

Succinct practical directions are given as to the modes of using electricity in the diagnosis of cases of paralysis. Even here the author shows that he has not depended entirely upon the ordinary text-books for his matter, but has called upon experience and has gone to current literature for his facts. He notes, for instance, that in most cases of spastic paralysis which he has had the opportunity of examining, simple diminution, instead of simple increase, in the electrical reaction has been present. A brief account of the partial form of the reaction of degeneration described by Remak and Erb as occurring in subacute atrophic spinal paralysis is also given. In this curious condition every kind of direct and indirect excitation of the muscles, even instantaneous stimuli, invariably produce sluggish contractions.

Valuable tables of differential diagnosis are scattered throughout that part of the book which discusses special diseases of the cord and its envelopes.

In the chapter on "Concussion of the Spinal Cord, with Special Reference to the Spinal Symptoms which Result from Railway Collisions and the Method of Investigating Railway Cases," fortunately for scientific medicine, the work of Mr. Herbert Page has been drawn upon for the bulk of the matter, rather than the brilliant but too often misleading treatises of Erichsen.

Pseudo-hypertrophic paralysis is discussed in an appendix, because recent observations seem to show that in it the spinal cord may be perfectly healthy.

This book will prove of the richest value not only to the neurologist, but also to the student and general practitioner. C. J. M.

SCLEROSIS OF THE SPINAL CORD: Including Locomotor Ataxy, Spastic Spinal Paralysis, and Other Systemic Diseases of the Spinal Cord: Their Pathology, Symptoms, Diagnosis, and Treatment. By JULIUS ALTHAUS, M.D., M.R.C.P., Senior Physician to the Hospital for Epilepsy and Paralysis, etc. With Nine Engravings. New York, G. P. Putnam's Sons, 1885. Pp. 386.

This work is the best exposition of the general subject of spinal sclerosis which has been placed before the profession. It embodies the results of many years of rich clinical experience.

Sclerosis is defined as "an irritant morbid process, standing intermediate between inflammation and simple atrophy, which invades certain well-defined and evolutionally, anatomically, and physiologically distinct areas or systems of that organ, and which leads in course of time to disintegration and wasting of the nerve-tubes, very generally to

partial or complete destruction of the axis-cylinder, and to overgrowth of connective tissue." This is perhaps as good a general definition of the much used and much abused term. sclerosis, as could well be framed.

One charm of the book is the philosophical manner in which the subject is often treated. After showing that normally the different conducting-paths in the spinal cord are laid down and developed in an absolutely systematic manner, he asserts his belief that this initiation and development of nerve-fibres is in some cases carried out in a deficient manner, and this may later on lead to disease of the imperfectly formed or not fully protected parts. "As there are born statesmen, artists, and criminals," he says, "so there are no doubt some born to be sclerosed, and these are in general the descendants of the syphilitic, the gouty, and the alcoholized."

For a book on the general subject of spinal sclerosis, an undue amount of space would seem to have been given to tabes dorsalis. A few new features with reference to spastic paralysis are brought out. For that most difficult problem, the differential diagnosis of spastic paralysis due to sclerosis from hysterical spastic paralysis, Althaus suggests that a dynamometer, which he has had constructed for measuring the force in the lower extremities, will at least in a certain number of cases enable us to distinguish between the functional and the structural form of spastic paralysis. In the former, although the patient may be unable to walk, the dynamometer often indicates a considerable degree of muscular power.

The question of the syphilitic origin of tabes is discussed with great fulness. He favors the view that most but not all cases are due to syphilis. He does not regard it as fair to exclude statistics altogether. His own cases gave a percentage of 86.5 in favor of syphilis. In this, as in other sections, the book is strong in well-recorded clinical histories. He concludes that in many cases no other cause but syphilis can be found for the evolution of tabes, while in others a variety of injurious influences appear to act together with the syphilitic dyscrasia in leading to the outbreak of this complaint. Cold, over-exertion, accidents, venereal excesses, drink, and tobacco-smoking are other causes which act either alone or with syphilis.

Curious, and highly instructive with reference to etiology, are the accounts given of the production of tabes from the eating of bread contaminated with ergot of rye, and of spastic spinal paralysis from bread mixed with the meal of the grain of *Lathyrus cicera*.

The symptoms of tabes are discussed in a chapter of no less than one hundred and forty-four pages. It is a model of minute, elaborate, accurate clinical work. Nothing would seem to be left to be told. Knee-jerk, lightning-pains, Argyll-Robertson pupils,

mydriasis, ocular palsies, anosmia, hyperosmia, amblyopia and amaurosis, scotomata, color-blindness, optic atrophy, derangements of the auditory nerve, vertigo, trigeminal anæsthesia, hemi-atrophy of the tongue,—these are but a few of the symptoms of the first stage of the disease as described by this painstaking author! Verily, nowadays to know thoroughly one disease, especially if it be of the central nervous system, is almost enough for the lifetime of ordinary mortals.

After mercury for the syphilitic dyscrasia, galvanism to the spine is given a high place in the treatment of tabes. He has come to regard nerve-stretching as, under any circumstances, a hazardous operation in tabes.

C. J. M.

GLEANINGS FROM EXCHANGES.

CHOLERA VACCINIA.—Some interesting and important experiments with attenuated cholera virus have been made by Dr. Ferrán, of Barcelona. Two medical men, Drs. Serafiana and Jacques, were inoculated with the virus. At 5 P.M. the former was inoculated with half a cubic centimetre of the fluid in each arm. At 7.30 he began to feel severe pain in the backs of the arms, preventing their free action. This pain was subject to temporary exacerbations, and at 11 P.M. pyrexia commenced (we are not told whether the thermometer was used), manifested by malaise, a burning heat, an irregular pulse of 100 per minute, insomnia, and slight headache. He was, however, able to attend to his practice the following day, though the symptoms continued till eight o'clock in the evening, when they suddenly disappeared. Dr. Jacques was inoculated with half a cubic centimetre of the same fluid in one arm at 4 P.M., and experienced the same symptoms as his colleague, with the addition of a slight rigor and some nausea. Dr. Bertran y Rubio also—a member of the commission appointed by the Royal Academy of Medicine to investigate Dr. Ferrán's researches—willingly submitted to inoculation, and with results similar to those obtained in the cases of Drs. Serafiana and Jacques, and, like them, without any subsequent evil effects. These experiments form part of a series of micro-biological researches suggested by the Royal Academy of Medicine of Barcelona, and they were performed in the presence of the commission, to whom Dr. Ferrán exhibited a microscopical preparation of the liquid injected and of Dr. Serafiana's blood eighteen hours after the inoculation, in which micrococci were detected. Dr. Ferrán also put a couple of drops of the liquid attenuation into half a glassful of water and drank it. In order to render these experiments complete, it remains to be proved that such inoculations confer immunity from subsequent similar inoculations, and, what is of

more importance still, from inoculation of the cholera virus itself. These researches are to be shortly undertaken; and the *Independencia Médica*, to which we are indebted for the above account, predicts that Dr. Ferrán will be successful in his attempts to free mankind from cholera and other contagious diseases by means of inoculations of attenuated virus. —*Lancet*.

MISCELLANY.

AN ACT to establish a State Board of Health for the better protection of life and health and to prevent the spread of contagious and infectious diseases in this Commonwealth.*

SECTION 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, That the Governor, by and with the advice and consent of the Senate, shall appoint six persons, a majority of whom shall be physicians of good standing, graduates of regularly-chartered and legally-constituted medical colleges, and of not less than ten years' experience in the practice of their profession, and one of whom shall be a civil engineer, who, together with the secretary, the mode of whose appointment is hereinafter provided for, shall constitute and be designated as the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Of the six persons first appointed, two shall serve for two years, two for four years, and two for six years from the first day of July next following their confirmation; and the Governor shall thereafter biennially appoint, by and with the advice and consent of the Senate, two persons, of the same professions as those whose terms of office have just expired, to be members of said board, to hold their offices for six years from the first day of July next following their confirmation and until their successors are appointed, excepting the secretary, who shall continue in office as hereinafter provided, but any member may be re-appointed. Any vacancy occurring in said board during a recess of the Legislature shall be filled by the Governor until the next regular session of the same.

SECTION 2. As soon as possible after the appointment of the first six persons as aforesaid, they shall meet in the office of the Secretary of the Commonwealth, and shall proceed, under the direction of the latter officer, to determine by lot which of them shall serve for the respective terms of two, four, and six years. Before entering upon the duties of the office they shall take the oath prescribed for State officers by the Constitution of the State, and shall file the same in the office of the Secretary of the Common-

wealth, who, upon receiving the said oath of office, shall issue to each a certificate of appointment for his respective term of office, determined as aforesaid; upon receiving which they shall possess and exercise the powers and perform the duties of said board as defined in this act. Immediately after having taken the oath of office they shall organize by electing one of their number to be president, and by appointing a proper person, who shall be a physician of good standing, of not less than ten years' professional experience and a graduate of a legally-constituted medical college, to be secretary of said board, who shall hold his appointment until removed by the appointment of his successor or otherwise. The board may elect one of its own members secretary, in which case the vacancy thus created shall be filled by the Governor in the same manner as a vacancy caused in any other way. The president shall be elected annually. No member of the board, except the secretary, shall as such receive any salary, but the actual travelling and other expenses of any member while engaged on the actual duties of the board shall be allowed and paid on presentation to and approval of the Auditor-General of an itemized account, with vouchers annexed.

SECTION 3. The secretary shall be the executive officer of the board, and shall have all the powers and privileges of a member of said board, except in regard to voting upon matters relating to his own office and duties as secretary. He shall receive an annual salary of two thousand dollars, which shall be paid him in the same manner that salaries of other State officers are paid, and such necessary expenses as the Auditor-General shall audit, on presentation of an itemized account, with vouchers annexed, and the certificate of the board, shall be allowed him.

SECTION 4. The said board shall meet at least once every six months, and may also hold special meetings as frequently as the proper and efficient discharge of its duties shall require, in the capitol building at Harrisburg (unless otherwise ordered), and the rules or by-laws of the board shall provide for the giving of proper and timely notice of all such meetings to every member of the board. The Secretary of Internal Affairs shall provide and furnish such apartments and stationery as said board may require in the discharge of its duties. A majority of the members of the board shall, at any regular, called, or adjourned meeting, organize and constitute a quorum for the transaction of business.

SECTION 5. The State Board of Health and Vital Statistics shall have the general supervision of the interests of the health and lives of the citizens of the Commonwealth, and shall especially study its vital statistics. It shall make sanitary investigations and inquiries respecting the causes of disease, and

* This bill is now before the House, having passed the Senate.

especially of epidemic diseases, including those of domestic animals, the sources of mortality, and the effects of localities, employments, conditions, habits, food, beverages, and medicine on the health of the people. It shall also disseminate information upon these and similar subjects among the people. It shall, when required by the Governor or the Legislature, and at such other times as it deems it important, institute sanitary inspections of public institutions or places throughout the State. It shall codify and suggest amendments to the sanitary laws of the Commonwealth, and shall have power to enforce such regulations as will tend to limit the progress of epidemic diseases.

SECTION 6. In cities, boroughs, districts, and places having no local board of health, or in case the sanitary laws or regulations in places where boards of health or health-officers exist should be inoperative, the State Board of Health shall have power and authority to order nuisances or the cause of any special disease or mortality to be abated and removed, and to enforce quarantine regulations as said board shall direct.

Any person who shall fail to obey or shall violate such order shall, on conviction, be sentenced to pay a fine of not more than one hundred dollars, at the discretion of the court.

SECTION 7. It shall be the duty of the State Board of Health and Vital Statistics to have the general supervision of the State system of registration of births, marriages, and deaths, of prevalent diseases, and of practitioners of medicine and surgery, to prepare the necessary methods, forms, and blanks for obtaining and preserving such records, and to insure the faithful registration of the same in the several counties and in the Central Bureau of Vital Statistics at the capital of the State. The said board shall recommend such forms and amendments of laws as shall be deemed to be necessary for the thorough organization and efficiency of the registration of vital statistics throughout the State. The secretary of the State Board of Health and Vital Statistics shall be the superintendent of registration of vital statistics as supervised by said board. The clerical duties and safe-keeping of the bureau of vital statistics thus created shall be provided for by the Secretary of Internal Affairs, who shall also provide and furnish such apartments and stationery as said board shall require in the discharge of such duties.

SECTION 8. It shall be the duty of all health officers and boards of health in the State to communicate to said State Board of Health copies of all their reports and publications, and also such sanitary information as may be requested by said board. And said board is authorized to require reports and information (at such times and of such facts, and generally of such a nature and extent as its by-laws or rules may provide) from all public dispensaries, hospitals, asylums, infirmaries,

prisons, and schools, and from the managers, principals, and officers thereof, and from all other public institutions, their officers and managers, and from the proprietors, managers, lessees, and occupants of all places of public resort in the State; but such reports shall only be required concerning matters or particulars in respect of which it may in its opinion need information for the proper discharge of its duties.

SECTION 9. Said board may from time to time engage suitable persons to render sanitary service, or to make or supervise practical and scientific investigations and examinations requiring expert skill, and to prepare plans and reports relative thereto. But no more than two thousand dollars shall be expended in any one year for such special sanitary service.

SECTION 10. It shall be the duty of said board on or before the first Monday of December in each year to make a report in writing to the Governor of this State upon the sanitary condition and prospects of the State, and such report shall set forth the action of the said board and of its officers and agents, and the names thereof for the past year, and may contain other useful information pertinent to the objects for which it was created, and shall suggest any further legislative action or precaution deemed proper for the better protection of life and health; and the annual report of said board shall also contain a detailed statement of the State Treasurer of all money paid out by or on account of said board, and a detailed statement of the manner of its expenditure during the year last past, but its total expenditure shall not exceed the sum of five thousand dollars in any one year.

SECTION 11. The sum of ten thousand dollars (\$10,000) is hereby appropriated from the treasury for the purposes of this act, and the expenditures properly incurred by the authority of said board and verified by affidavit, subject, however, to the limitations hereinbefore imposed, and shall be paid by the treasurer upon the warrant of the Auditor-General.

SECTION 12. This act shall take effect immediately, and all acts or parts of acts inconsistent herewith shall be and are hereby repealed.

WORK OF THE ILLINOIS STATE BOARD OF HEALTH.—In connection with the Sanitary Survey of the State and the House-to-House Inspection now being prosecuted under direction of the State Board of Health with reference to the probable appearance of Asiatic cholera in this country, the Board has just issued Circular-Letter No. VI., addressed to County Clerks, and requesting that the work of getting the public institutions into good sanitary condition be completed with as little delay as possible. Much work of this character was done during the past summer and

fall, in response to the circular-letter of the Board issued in July last. But, in addition to what remained to be done when cold weather suspended operations, there must since have accrued, in many cases, accumulations of filth and refuse which should now be promptly removed; defects in plumbing, drainage, and sewerage disclosed during the winter should be repaired; and the effects of the occupancy of dormitories, workshops, wards, cells, and other apartments should be remedied by a thorough spring cleansing.

The officers in charge of almshouses, jails, and all other public buildings under control of the County Board are notified to commence this work at once. Very much that requires to be done—scrubbing, whitewashing, removal of garbage and refuse, the emptying and disinfection of vaults and cesspools, the opening up and cleaning out of drains, sewers, and ditches—can be performed by the employees and inmates of the institutions.

Special attention should be given to the location and condition of privies and water-closets at these places, as also at court-houses and elsewhere. Vaults should be emptied before warm weather makes such work dangerous, and then be thoroughly disinfected with sulphate of iron (copperas). Where these vaults are within fifty feet of any source of water-supply—well, spring, pond, lake, or running stream—their further use should be abandoned, and, after being emptied, they should be disinfected and filled up with clean, dry earth,—one of the best disinfectants. The new vault should not be less than fifty feet from the nearest water-supply; should be water-tight; ventilated by a four-inch shaft opening above the roof; the contents should be kept inoffensive by the use of some cheap disinfectant; and the building and its surroundings should be kept in the cleanest attainable condition. Where practicable, the substitution of the earth-closet system for the subterranean vault-storage is recommended. In either case the frequent removal of the contents, and their safe disposal by use as fertilizers, are necessary sanitary measures.

The source of the water-supply, and its storage and distribution, should be carefully inquired into, and all possible causes of pollution should be removed. A pure water-supply is of the first importance to health under all circumstances, but among numbers of persons living under the conditions which obtain in county institutions its importance is increased. Epidemics of diarrhoea and dysentery may be caused by impure water, while typhoid fever and Asiatic cholera are spread more commonly through the water-supply than in any other way.

These remarks and suggestions will indicate the character of the work which the Board considers it desirable should be accomplished before warm weather sets in, not alone through fear of cholera, but in the

interest of public health, and, consequently, of true economy.

A similar circular was recently issued to railroad managers, setting forth that the spread of Asiatic cholera is due oftener to the pollution of the water-supply than to any other one cause. There is no commoner mode of such pollution than through foul, badly-constructed, and improperly-located privies and water-closets. The disease, in this country, being always due to importation, and its spread being most commonly by persons travelling from place to place, it follows that railway privies and water-closets are especially exposed to the danger of cholera-infection. In view of these facts, it is requested that all such places in connection with stations, freight-houses, shops, and round-houses be at once inspected and put in good sanitary condition. Responses have been received from nearly all the roads, and one of the most important lines has already completed the work indicated along the entire extent of its road.

THE MALADY OF GENERAL GRANT.—So many contradictory statements have been made regarding the nature of the disease with which the veteran General Grant, ex-President of the United States, is afflicted that I thought your readers would like some authentic report on the subject. For this purpose I visited Dr. George R. Elliott, of 105 Madison Avenue, who has made microscopic preparations of the morbid growths removed from General Grant's throat and examined them at his leisure. The following is his report, written for the *Lancet* at my request:

"The disease is not extensive, the ulcerations being limited to the right pillars of the fauces, the anterior one being perforated near its base. The adjoining side of the tongue is but slightly indurated, as is also a neighboring gland. The case being somewhat unique in its development and progress, a microscopical examination of a small portion of the growth was deemed advisable as an aid in arriving at an exact diagnosis. General Grant readily consented to the removal of a piece for this purpose, and a portion about the size of a pea was taken from the ulcerated edge by Dr. F. C. Riley at the request of Dr. J. H. Douglas. This specimen was rapidly hardened in alcohol, and at the end of thirty-six hours sections were made, stained, and mounted for examination. The following histological findings were readily made out. The structure is largely composed of epithelial tissue, which in places appears in the form of distinct lobules. In portions of these lobules the cells are grouped in concentric globes or cell-nests. The individual epithelial elements present great multiformity in shape, and lie in close contact with each other. Marked evidence of cell-proliferation is seen in the deeper layers of the specimen. There is a

more or less complete stroma or framework running through portions of the growth, composed of fibrous tissue rich in small round cells. By way of summary, thus: the more or less lobulated appearance of the epithelial mass, the grouping of the epithelial elements into concentric globes, the great diversity in the shape of the cell-elements, the evidence of cell-proliferation, and the peculiar arrangement of the stroma, would warrant a diagnosis of epithelioma of the squamous variety. The specimen was removed on February 18, 1885, and the report submitted on February 23. The diagnosis was arrived at only after the greatest possible care had been taken to exclude all sources of error, with a full knowledge of the clinical history and with a mind anxious to find only the microscopical evidence of a benign or innocent growth. After rendering the report the specimens were shown to Dr. T. E. Satterthwaite, the well-known pathologist, who fully confirmed the diagnosis. Upon request they were also exhibited to the eminent gentlemen of the consulting staff,—viz., Drs. Fordyce Barker, H. B. Sands, J. H. Douglas, and G. F. Shrady."

With this detailed report you will, doubtless, be in a position to draw your own conclusions as to General Grant's condition. My own impression is, after a careful examination of the microscopical preparations and consultation with Dr. Elliott, that there is nothing in the nature of the disease that is likely to kill General Grant at an early date, although the failure of his general health may precipitate a crisis at any time. Stimulants do not act kindly, and cocoa only has been administered with success. Still, if the general tone of his system could be maintained, his naturally strong constitution may enable him to combat the ravages of the disease for some time. If an early fatal termination of the case should happen, it will probably be due to the invasion of his sick-room by some half-dozen physicians and reading the exaggerated reports which are daily printed in the public press.—*Correspondence in London Lancet.*

JEFFERSON MEDICAL COLLEGE.—The sixtieth annual commencement of the Jefferson Medical College was held at the Academy of Music on the 2d inst., at which the degree of Doctor of Medicine was conferred upon one hundred and seventy-six graduates. The valedictory address was delivered by Prof. Wm. H. Pancoast.

The Alumni Association of the College had its annual meeting the evening before the commencement. Dr. Addinell Hewson was elected president. The annual oration was delivered by Prof. J. W. Holland, of Louisville, Kentucky, on "Our Personal Equations," which appears in full on another page. (See pages 521-526.)

MEDICO-CHIRURGICAL COLLEGE.—The Medico-Chirurgical College held its annual commencement at Association Hall on April 2. The valedictory was delivered by Prof. Gerhard. The doctorate was conferred upon five graduates by Prof. James E. Garretson, who announced, as a result of the thorough examination, clinical, oral, and written, that out of a class of nine candidates for the degree four had been rejected.

MEDICAL JURISPRUDENCE SOCIETY.—Mr. Clark Bell, of New York, read a paper before the Medical Jurisprudence Society of Philadelphia on the 14th inst., entitled "Shall we Hang the Insane who have committed Homicide? A Criticism on the Execution of Dr. Beach."

THE AMERICAN SURGICAL ASSOCIATION will meet in Washington, D.C., on April 21, 22, 23, and 24. A large number of interesting communications appear on the programme.

NOTES AND QUERIES.

OBITUARY.

JAMES L. LITTLE.—It is with regret that we notice the death, on the 4th inst., of Dr. Little, of New York, a distinguished surgeon and successful practitioner. He died at the age of 44 years, after a few days' illness, with peritonitis. The death of such members leaves the profession palpably poorer.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 29, 1885, TO APRIL 11, 1885.

HALL, WILLIAM R., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month and fifteen days, to take effect when his services can be spared. S. O. 70, A. G. O., March 27, 1885.

GARDINER, JOHN DE B. W., CAPTAIN AND ASSISTANT-SURGEON.—Ordered for temporary duty at Fort McHenry, Maryland. S. O. 64, Department of the East, March 28, 1885.

BIART, VICTOR, CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended six months, on surgeon's certificate of disability. S. O. 77, A. G. O., April 4, 1885.

CAPTAIN STEVENS G. COWDREY, ASSISTANT-SURGEON.—From Department of the East to Department of Missouri.

CAPTAIN AUGUSTUS A. DE LOFFRE, ASSISTANT-SURGEON.—From Department of the East to Department of Dakota.

CAPTAIN LOUIS W. CRAMPTON, ASSISTANT-SURGEON.—From Department of the East to Department of the Platte.

CAPTAIN GEORGE H. TORNEY, ASSISTANT-SURGEON.—From Department of Missouri to Department of the East.

FIRST-LIEUTENANT WILLIAM H. ARTHUR, ASSISTANT-SURGEON.—From Department of the Platte to Department of the East.

FIRST-LIEUTENANT M. C. WYETH, ASSISTANT-SURGEON.—From Department of Dakota to Department of the East. S. O. 77, A. G. O., April 4, 1885.

CARTER, E. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted one month's leave, with permission to apply for one month's extension, to take effect upon the arrival of another medical officer at his post. S. O. 30, Department of Arizona, March 23, 1885.